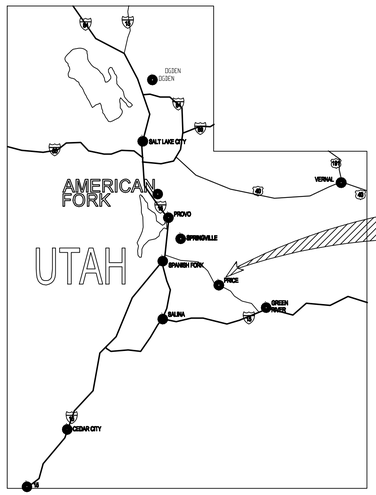
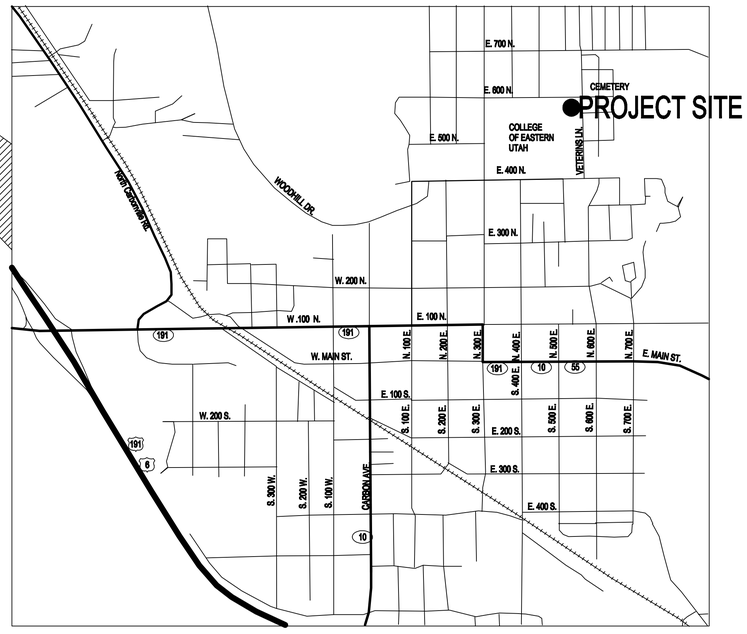
UTAH NATIONAL GUARD
PRICE ARMORY
STRUCTURAL REPAIR & UPGRADES

584 NORTH 500 EAST - PRICE, UTAH
PROJECT No. 08297480 DATE: JUNE 17, 2009



UTAH VICINITY MAP



PRICE LOCATION MAP

ARCHITECT:	STRUCTURAL ENGINEER:	MECHANCIAL ENGINEER:	ELECTRICAL ENGINEER:
EFT ARCHITECTS 265 EAST 100 SOUTH, SUITE 350 SALT LAKE CITY , UTAH 84111 PH: 801.521.8564 FAX: 801.355.2938	**REAVELEY ENGINEERING** 575 EAST 500 SOUTH SALT LAKE CITY , UTAH 84102 PH: 801.486.3883	**VAN BOERUM & FRANK** 330 SOUTH 300 EAST SALT LAKE CITY , UTAH 84111 PH: 801.530.3148 FAX: 801.530.3150 www.vbfa.com	**SPECTRUM ENGINEERS** 175 SOUTH MAIN STREET, SUITE 300 SALT LAKE CITY , UTAH 84111 PH: 801.328.5151 FAX: 801.328.5155 www.spectrum-engineers.com

Reason: The State Building Official has determine
installing a new automatic sprinkler system through
area and fire areas in the existing building exceed th
non- separated occupancy (A-3), a new automatic s
due to the limited impact of the alteration on the exis

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
COVER SHEET

REVISIONS	DATE	BY	DESCRIPTION
△			
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DRAWN BY JRA CHECKED BY ERT

PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. GL001

Utah National Guard - Price Armory - Seismic Upgrade

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2008
International Mechanical Code	2006	Uniform Code for Building Conservation	1997
International Fuel Gas Code	2006	ADA Accessibility Guidelines	1994
International Plumbing Code	2006		
International Fire Code	2006		
International Energy Conservation Code	2006		

A. Occupancy and Group: A-3 B S-1 R-1

Change in Use: Yes _____ No X Mixed Occupancy: Yes X No _____
Special Use and Occupancy (e.g. High Rise, Covered Mall): NO

B. Seismic Design Category: D Design Wind Speed: 90 mph

C. Type of Construction (circle one):

I/A I/B II/A II/B III/A (III/B) IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: 0 South: 0 East: 0 West: 0

E. Mixed Occupancies: _____ Nonseparated Uses: X

F: Sprinklers:

Required: NO Provided: NO

Type of Sprinkler System (IBC 903.3.1) N/A

G: Number of Stories: 1 Building Height: 32

H: Actual Area per Floor (square feet): BASEMENT = 584
L1 = 17,380

I: Tabular Area: (table 503): 9,500 A-3 MOST RESTRICTIVE

J: Area Modifications:

a) $A_a = \left\{ A_t + \left[A_t \times I_f \right] + \left[\cancel{A_t \times I_s} \right] \right\}$ $I_f = \left[F/P - 0.25 \right] W / 30$

9,500 + 7125 = 16,625 556/556 - 0.25 X 1 = 0.75

b) Sum of the Ratio Calculations for Mixed Occupancies:

$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$ NA (NON-SEPERATED OCCUPANCIES

c) Total Allowable Area for:

1) One Story: 16,625 4) Mezzanine: = 2592
2) Two Story: A_a(2) N/A
3) Three Story: A_a(3) N/A

d) Unlimited Area Building: Yes _____ No X Code Section: _____

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	2	Exist*	Floors - Ceiling Floors	0	N/A
Interior Bearing Walls	0	N/A	Roofs - Ceiling Roofs	0	N/A
Exterior Non-Bearing Walls	0	N/A	Exterior Doors and Windows	0	N/A
Structural Frame	0	N/A	Shaft Enclosures	0	N/A
Partitions - Permanent	0	N/A	Fire Walls	0	N/A
Fire Barriers	0	N/A	Fire Partition	1	GA1072
			Smoke Partitions	0	N/A

* 2 hour assumed for existing CMU/Brick Exterior Walls

L. Design Occupant Load: 36 (NEW) 692 (Existing)

Exit Width Required: 146" Exit Width Provided: 165"

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) 5 (f) 2 Provided (m) 4 (f) 2
b) Urinals - Required (m) 0 (f) N/A Provided (m) 4 (f) N/A
c) Lavatories - Required (m) 3 (f) 2 Provided (m) 3 (f) 2
d) Bath Tubs or Showers: 0 Req'd 5 Provided
e) Drinking Fountains: 1 Service Sinks: 1

Based on A3
85% MEN 15% WOMEN

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
a) High Rise Requirements.
b) Atriums.
c) Performance Based Criteria.
d) Means or Egress Analysis.
e) Fire Assembly Locator Sheet.
f) Exterior and Interior Accessibility Route.
g) Fire Stopping, Including Tested Design Number.

SUPPLEMENTAL CODE DATA

Project

Price Armory Structural Repairs and Upgrades

Occupancy

Occupancy Classification (Existing): A-3, B, S-1, R-1
Occupancy Classification (New Classrooms) B

Most Restrictive Requirements	A-3√	B	S-1	R-1
Allowable Area	16625	33250	30625	28000
Allowable Height	2√	4	3	4

√ = Most restrictive requirements

Area

Public Way/Open Space	Width
North (centerline of street)	>30
East (centerline of street)	>30
South	>30
West	>30

Qualifying Building Frontage (F): 556
Building Perimeter (P): 556
F/P: 1.00
W/30: W=30 1.00
Frontage Increase (If): 75.00

Allowable Area	A-3√	B	S-1	R-1
Tabular Area (At)	9500	19000	17500	16000
Frontage Increase (If) (75.00)	7125	14250	13125	12000
Allowable Area (Aa) - Per Floor	16625	33250	30625	28000

√Most restrictive

Actual Area	Existing	New	Total
Actual Area - Basement	584	0	584
Actual Area - Level 1	17380	0	17380

Actual existing area of Level 1 exceeds most restrictive allowable area (A-3) under current code 755 s.f.

Height and Number of Stories

	A-3√	B	S-1	R-1
Allowable Height	55	55	55	55
Actual Height	32	32	32	32
Allowable No. of Stories	2	4	3	4
Actual No. of Stories	1	1	1	1

√Most Restrictive

Actual height and number of stories does not exceed allowable height and number of stories for most restrictive occupancy (A-3) - OK

Type of Construction

Type of Construction-Existing (Assumed): IIIB

Fire Protection Systems

Automatic Sprinkler System Required: No

Reason: The State Building Official has determined that the alteration will not trigger a requirement for installing a new automatic sprinkler system throughout the existing building. Although the Level 1 floor area and fire areas in the existing building exceed the current allowable areas for the most restrictive non-separated occupancy (A-3), a new automatic sprinkler system would not be justified or required due to the limited impact of the alteration on the existing building.

Standpipe System Required No
Fire Alarm System: New system added Yes

Means of Egress

Occupant Load
Occupant Load - New 36
Occupant Load - Existing 692
Total 728

Means of Egress	Requirement	Provided
Exits	3	3
Egress Width	146	165
Maximum Travel Distance (ft.)	200	138

Accessibility

Building entrance and restroom/shower room accessible upgrades satisfy accessible route upgrade (20% requirement) to altered primary function in accordance with IBC 3409.5 and 3409.7

DEFFERRED SUBMITTALS	ESTIMATED SUBMITTAL DATE
FIRE ALARM	NOVEMBER 2009
MECHANICAL & ELECTRICAL SEISMIC BRACING	NOVEMBER 2009
SUSPENDED CEILING SEISMIC CLIP	NOVEMBER 2009
MICROPILE DESIGN	NOVEMBER 2009

SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS

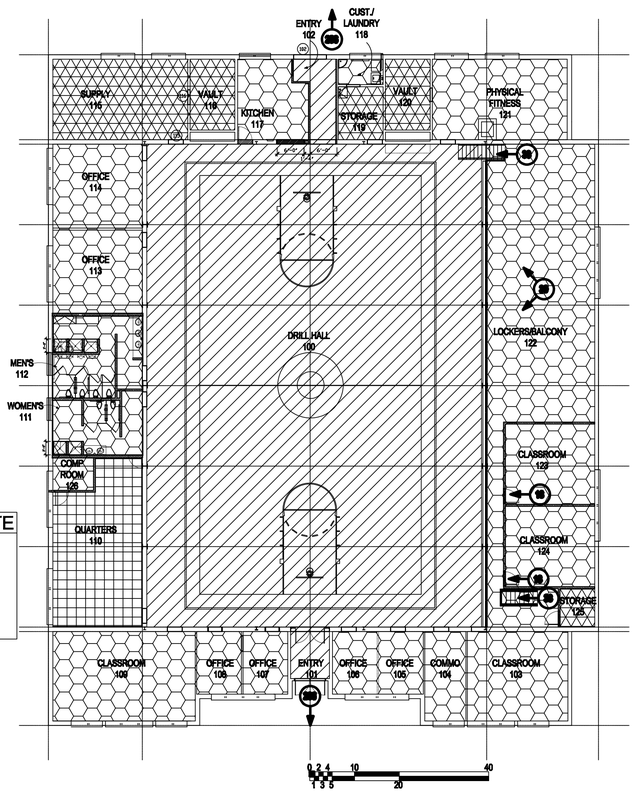
Design and installation of seismic restraints systems for nonstructural components (e.g. architectural, mechanical, and electrical) is to comply with the 2006 International Building Code (IBC), ASCE 7-05 as referenced in the IBC, seismic control specifications, details on the drawings. Calculations are to be prepared by a professional engineer licensed in State of Utah.

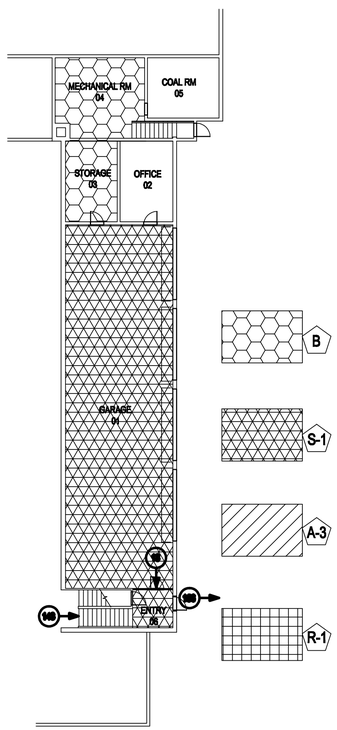
STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

DIVISION OF FACILITIES & CONSTRUCTION AND MANAGEMENT

4110 STATE OFFICE BUILDING SALT LAKE CITY, UTAH 84111 801.538.3018

INDEX OF DRAWINGS





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CONSULTANT INFORMATION

KEYED NOTES

STATE OF UTAH ERIC R. THOLEN 129665 LICENSED ARCHITECT 6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
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REVISIONS	DATE	BY	DESCRIPTION
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DRAWN BY JRA CHECKED BY ERT

PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. GL002

Utah National Guard - Price Armory - Seismic Upgrade

NOTE: DRIP IRRIGATION TO BE USED IN ALL PLANTER BEDS.

EXISTING TREES TO REMAIN

EXISTING TREE TO REMAIN

NEW CONCRETE MOWSTRIP

NEW FLAGPOLE

EXISTING TREE TO BE REMOVED

AA

BB

PLANT SCHEDULE

SYMBOL	NUMBER	BOTANICAL NAME	COMMON NAME	QTY.	SIZE
		TREES			
AA		ROBINIA PSEUDOACACIA	IDAHO LOCUST	2	2.5" CAL
BB		CRATAEGUS LAEVIGATA	PAULS SCARLET HAWTHORNE	6	2.0" CAL
		DROUGHT TOLERANT SHRUBS			
	1	COTONEASTER DAMMERI 'CORAL BEAUTY'	BEARBERRY COTONEASTER	22	5 GAL
	2	FALLUGIA PARADOXA	APACHE PLUME	13	5 GAL
	3	YUCCA FILAMENTOSA	RED YUCCA	23	5 GAL
		GRASSES			
	4	CALAMAGROSTIS 'KARL FOERSTER'	KARL FORESTER GRASS	23	
		PERENNIALS			
	5	HEMEROCALLIS SPECIES (MIXED)	DAYLILY	60	
		ACCENT BOULDERS			
	6	VARIOUS SIZES FROM 1' TO 3' DIAMETER	DAYLILY		

NOTE: ALL QUANTITIES SHOWN ARE FOR CONTRACTORS CONVENIENCE AND DOES NOT RELEASE THE RESPONSIBILITY OF THE CONTRACTOR TO QUANTIFY THE TOTAL NUMBER OF PLANTS NEEDED FOR THE PROJECT.

GROUND COVER	SPACING
CREEPING THYME	9" O.C.

NOTE: USE BARK MULCH IN WEST SIDE PLANTER BEDS. USE ROCK MULCH OF A COLOR TO MATCH BUILDING IN NORTH AND EAST PLANTER BEDS. (SIZE AT ¾" MINUS.

VETERANS LN.

LANDSCAPE PLAN
SCALE: 1/8" =1-0"

NORTH

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CONSULTANT INFORMATION

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129665
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6-17-09

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584 NORTH 500 EAST
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DRAWN BY CTT
CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. L 101

Utah National Guard - Price Armory - Seismic Upgrade

NOTE: DRIP IRRIGATION TO BE USED IN ALL PLANTER BEDS.

VETERANS LN.

GENERAL IRRIGATION SYSTEM NOTES:

1. The source of water for this project is Salt Lake City Corporation potable water system available in the area. Connection to house service line shall be provided by the Installer. The contractor shall locate the main service line feeding the house from the meter and install a stop and waste service valve down up-stream from the meter to service this system.

2. Wilful installation of this work when it is obvious job/site conditions exist that should be brought to the attention of the owner's authorized representative is prohibited. The Installer assumes full responsibility to correct the work at his own expense if he fails to give the required notification.

3. Coverage is intended to be 100% of the planted area as shown on the planting plan. Modify the equipment locations as required to prevent interfering with trees or utilities or to achieve complete and even coverage without increasing feeder line runs, etc. These adjustments shall be made at no additional cost to the owner.

4. Pipe routing is diagrammatic only and shall be interpreted as such. Field verify dimensions prior to trenching. The location of heads, emitters, valves, lines, etc. on the drawings is approximate and the actual placement of these elements may vary slightly. Pipes shall be placed parallel to walks and drives in the adjacent planting areas rather than under the pavement as it may be shown on the plan for the sake of clarity. Such re-routing of pipe shall mandate a re-calculation of friction losses and pipe sizing by the contractor and shall be submitted to the Landscape Architect for approval. Note all changes on the record drawings.

5. Utilities damaged during excavating shall be repaired at the installers expense to the utility owner's satisfaction. Take all necessary precaution not to damage or destroy any existing buried utilities. Notify utility owner of damage immediately.

6. Watering schedule shall be based on an average of 2" of water per week or to accommodate local climatic conditions. Adjust the frequency of cycles and duration of applications seasonally as needed to conserve water and still maximize plant growing conditions.

7. House electric control valves, filter in adequately sized locking green valve boxes as manufactured by Carson, Amstek, or Brooks. Size each box to accommodate inspection, servicing, and removal of the housed components without having to remove the box. Wrap the bottom of the box including the housed assemblies with Mirafi or equal filter fabric as a separation between the components and the sump. Provide a 12" deep gravel sump under each valve box. The filter fabric over the gravel shall be 6" below the bottom of the valve and free from silt, sedimentation, and standing water at the time of final inspection.

8. Wiring at valves in each box shall have twelve inches (12") of coiled slack left for every 100' of wire length. Install all wiring from valves to automatic controller in accordance with manufacturer's recommendations. Use control wire of UF-UL listed copper conductor with PVC insulation for direct burial. Tape control wires to the side of the main. Use 3-M brand DBY waterproof dry splice connectors at all splices or connection points and leave eighteen inches (18") at each connection to facilitate removal of valve for inspections etc.

9. Weld and test all PVC pipe joints using industry standards and approved methods or procedures. Joints where excessive primer and/or glue are visible will be rejected. Wrap all threaded pressure connections with teflon tape.

10. Gravity drain all mains and lateral lines. See the requirements for head check-valves noted elsewhere. Positive gravity drainage of the system shall be guaranteed even if the system will ultimately be blown dry for winter servicing. A minimum of 1 cubic foot of pea gravel shall be used as a sump under/at each drain location.

11. Automatic drains are not required on this system. Request in writing any use of automatic drains if isolated situations warrant their use. Pressure blow the system dry with forced air at the end of each season. The contractor shall perform routine servicing ie. Winter shut down and spring start up during the first year.

12. A manual drain valve shall be placed in each valve box at the outlet side of each automatic control valve controlling an up-hill lateral circuit. Provide Rainbird 18A-FDV filtered automatic drain valves, or approved equal, where shown OR NEEDED on lateral lines for gravity drainage.

13. Set head height adjacent to paving or curbs ½" below the edge of the pavement surface. Minimize over spray by using the adjustment screws or features in each head or nozzle as needed. Over spray adjustments shall be made to the entire circuit by the installer before scheduling the Landscape Architect to make any inspection for coverage.

14. Body types appropriate to the location in which they are used is required in conjunction with the use of Rainbird 1800 series nozzles shown on the plans. The bodies shall be SEAL-A-MATIC "SAM" with "PRS" pressure regulating features. Body types shall be used in the following situations: 4"-1804's in lawn areas; 6"-1806's in front of ground cover, shrub, and planting beds; or next to walk, curbs, and drives; or above or in front of retaining walls where a stationary head would be unsightly or easily kicked. Use 12"-1812's in centers of ground cover or sparsely planted shrub beds where a stationary head would be unsightly. Use PA-SS plastic shrub adapters on top of 24" long schedule 80 risers when head location is in the back of any bed over 8' wide and located by a protective fence or wall. Use 1800-ext extensions as need to clear planting obstructing spray patterns.

15. Set risers/heads perpendicular to the finish grade. Heads on slopes shall be set at an angle halfway between vertical and perpendicular to the slope. Example: on a 2:1 or 50% slope with a 26 degree angle, the head tilts at a 13 degree angle. If the head tilts any closer to vertical, erosion can occur.

16. Swing joint or funny pipe risers shall be used under all heads. Flush assemblies before installing nozzles.

17. Pressure of 30 psi at each head has been used to design this system. When job site is prepared and ready for the installation of the system, the contractor shall perform friction loss calculation on the most critical circuits. If insufficient pressure exits to operate the system as designed, notify the Landscape Architect Immediately. Base calculation on the actual pressure available. If less than 65 PSI exists at point of connection, notify the Landscape Architect Immediately. Where on-site conditions warrant the use, 1800PCS pressure compensating screens as a part of this contract. Pressure at each head shall thus be regulated under every nozzle requiring special regulation except 'U' series nozzles where they are not recommended for use by manufacturer. With these nozzles, use the standard 1800PSC Series plastic screens.

18. Improperly compacted trenches which settle causing damage to sod or other plant materials will be promptly repaired by the irrigation contractor.

GENERAL *NETAFIM or RAIN BIRD LANDSCAPE DRIP LINE*- DRIP SYSTEM NOTES December 30, 2008

01. These notes are intended to be used IN ADDITION TO AND IN CONJUNCTION WITH the GENERAL IRRIGATION SYSTEM NOTES. All conditions required by NETAFIM or RAIN BIRD apply and either brand may be used interchangeably. Netafim Techline or Rain Bird Landscape Drip Lines shall be installed in accordance with Techline or Rain Bird Design Guide, latest edition. The system may be rejected due to unauthorized deviations from manufacturer's specifications and details. This system was designed with sandy loam topsoil as the basis for spacing. If other than sandy loam topsoil is encountered anywhere but on the undisturbed hillside where drip rings will be placed, advise the Landscape Architect of the condition and recalculate the system for appropriate line and emitter spacing.

02. Assemble and install manifold header, exhaust header, remote control valve, and pressure regulator assembly as indicated in Netafim/Rain Bird details. Pressure Regulators shall be adjusted to provide a working/operating pressure from 15-50 PSI.

03. Install Techline/Rain Bird Drip laterals beginning at the start connections indicated in details and plans. The type and layout of Ethylene laterals are to be installed either 1.) as specified, 2.) detailed or 3.) as drawn. Tape or plug all open ends. Supply and exhaust headers shall be Netafim blank tubing.

04. Install Air Vacuum Relief Valves at the points of highest elevation in each control zone to allow air into zone after shut down and to release air pockets in zone when circuit is activated.

05. Ethylene-to-PVC Fitting connections shall be made while flushing the system. Make connections as indicated in Netafim details. Connect Ethylene laterals to the exhaust header while flushing as indicated in Netafim details.

06. Install Flush Valves at a rate of one per 15 GPM of zone flow and as far away from the source as possible. Install it near or on the exhaust header. Locate all flush valves in valve boxes with 1 c.f. gravel sump.

07. Install all other Netafim/Rain Bird accessories as indicated in Netafim/Rain Bird/Toro details. Secure ground with TL86 Techline Staples or manufacturer's equal, spaced no further than 3'-0" o/c and at every change in direction. *Place mulch over drip lines only after placement and installation has been approved by Landscape Architect.*

08. Operate and inspect the system. Record system data for historical record and provide as-built record drawings to owner. Use Netafim System Inspection Checklist, and Troubleshooting and Maintenance Checklist or equal.

09. Winterize the system by unscrewing disc filters and storing discs to evacuate water. Lateral lines will drain automatically; main lines may be air pressure blown as with traditional sprinkler systems. See note regarding gravity drainage during first winter season.

IRRIGATION PLAN
SCALE: 1/8" =1'-0"

NORTH

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265 East 100 South Suite 350
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CONSULTANT INFORMATION

KEYED NOTES

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ERIC R. THOLEN
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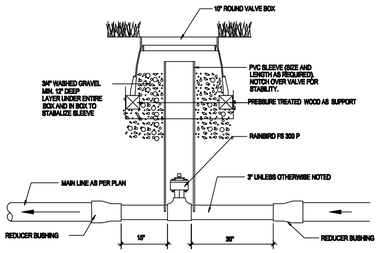
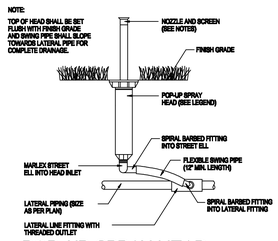
Utah National Guard - Price Armory - Seismic Upgrade



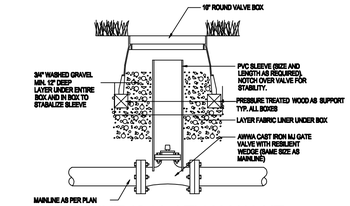
1 L104 **FLOW SENSOR**

NO SCALE



2 L104 **POP-UP SPRAY HEAD**

NO SCALE



3 L104 **MAINLINE ISOLATION VALVE**

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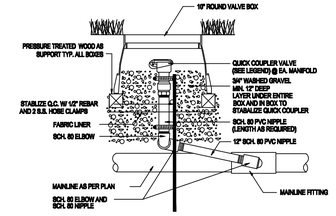
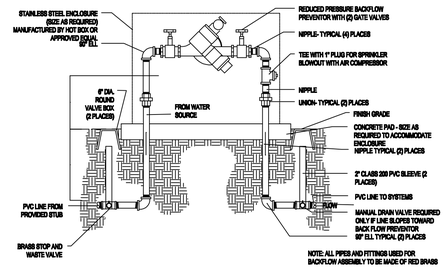


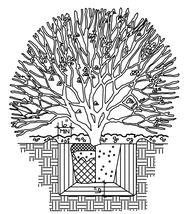
4 L104 **QUICK COUPLER VALVE**

NO SCALE



5 L104 **BACK FLOW PREVENTION ASSEMBLY**

NO SCALE



PROVIDE WATER SAUCER AT LIP OF EACH HOLE UNDER MULCH.

3" DEEP SHREDDED BARK MULCH.

SCARIFY SIDES OF HOLE IF AUGURED.

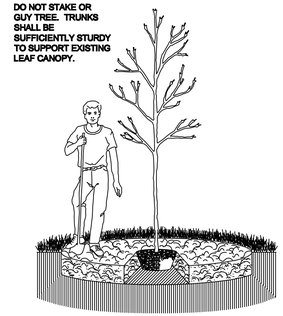
CUT AND LAY BACK BURLAP FROM TOP 1/3 OF BALL OR REMOVE FROM METAL CONTAINER, OR IF BARE ROOT STOCK SPREAD ROOTS IN THEIR NORMAL POSITION.

PLANTING MIX TO CONSIST OF 1/3 NATIVE SOIL FROM ORIGINAL HOLE, 1/3 SAND, AND 1/3 HUMUS i.e. PEAT OR SOIL-AID. MIX THOROUGHLY AND PLACE 6" ALL AROUND.

ON LEGGY SHRUBS WHERE GROUND COVER IS USED, PLANT GROUND COVER UP TO TRUNK.

10 L104 **SHRUB DETAIL**

SCALE NTS



DO NOT STAKE OR GUY TREE. TRUNKS SHALL BE SUFFICIENTLY STURDY TO SUPPORT EXISTING LEAF CANOPY.

THIS APPLIES TO ALL CONIFER. & DECID. TREES.

AMEND SOIL WITH ONE LARGE BALE OF PEAT PER TREE PIT. DISTRIBUTE UNIFORMLY INTO TOP 12" OF ROTO-TILLED SOIL THROUGHOUT PIT.

REMOVE ALL ROPES, CORDS & WIRE BASKETS FROM ROOT BALLS.

TREES WITH INJURED TRUNKS WILL BE REJECTED OUTRIGHT.

APPLY ANTI-DESSICANT SPRAY. THIN BRANCHES BY 1/3. TREES WITH CUT LEADERS WILL BE REJECTED.

REMOVE SHIPPERS TREE WRAP BEFORE FINAL ACCEPTANCE.

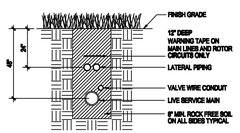
PLANTING AREA SHALL BE 3 TO 5 TIMES ROOT BALL DIAMETER. USE A ROTO-TILLER OR SHOVEL TO LOOSEN & MIX SOIL IN THIS ENTIRE AREA. DIG A SHALLOW HOLE IN WHICH TO STABILIZE ROOT BALL. SET BALL ON SOLID GROUND.

MAINTAIN 3' DIAMETER GRASS-FREE MULCH RING AROUND TRUNK IN LAWN AREAS.

3" MINIMUM LAYER OF SHREDDED BARK MULCH.

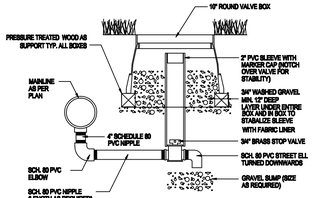
11 L104 **DECIDUOUS TREE DETAIL**

SCALE NTS



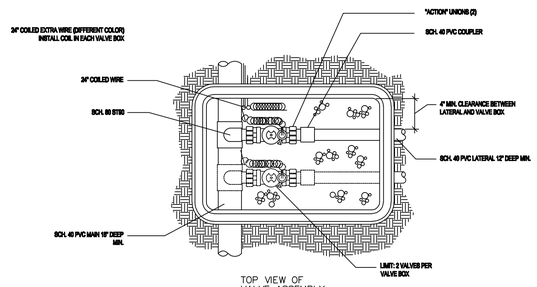
8 L104 **TRENCH DETAIL**

NO SCALE

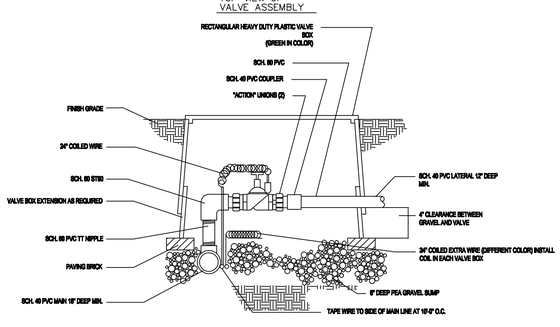


9 L104 **MAINLINE DRAIN**

NO SCALE

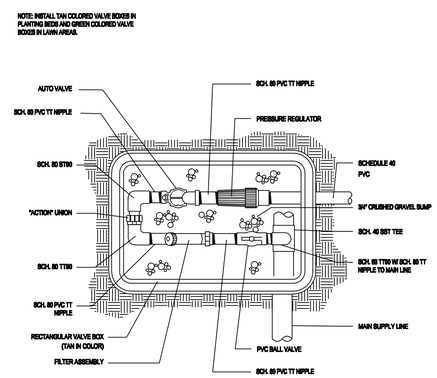


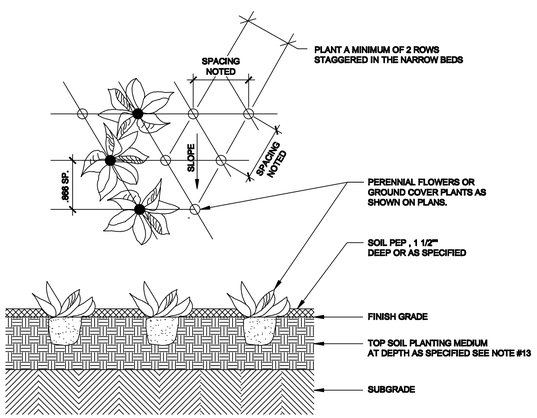
TOP VIEW OF VALVE ASSEMBLY



7 L104 **CONTROL VALVE MANIFOLD**

NO SCALE





12 L104 **PERENNIAL PLANTING DETAIL**

SCALE NTS

EFT ARCHITECTS

265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2936

CONSULTANT INFORMATION

KEYED NOTES

STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

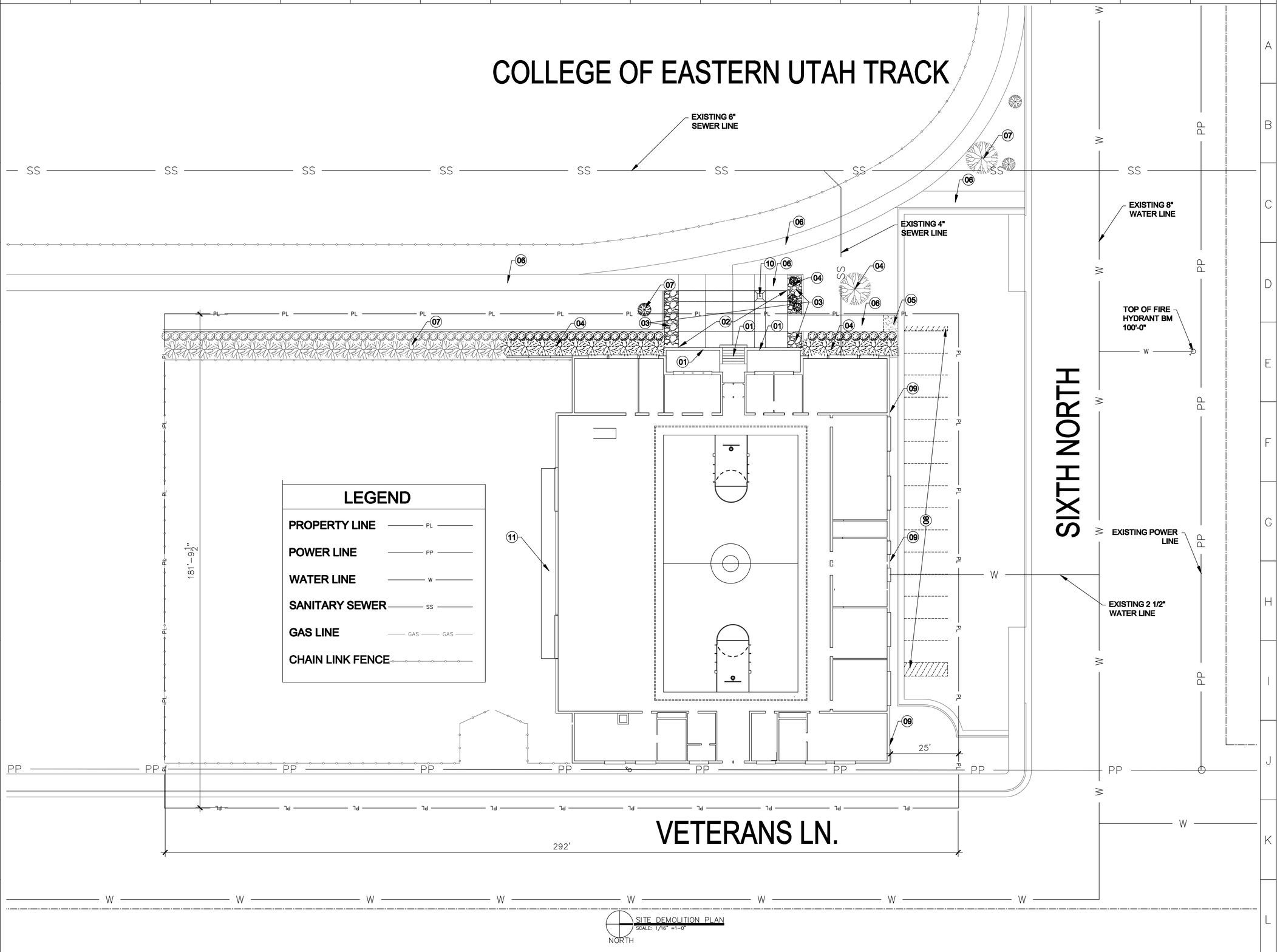
SHEET TITLE
DETAILS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY CTT
CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. L103

Utah National Guard - Price Armory - Seismic Upgrade

COLLEGE OF EASTERN UTAH TRACK



SITE DEMOLITION PLAN
SCALE: 1/16" =1'-0"
NORTH

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01. REMOVE EXISTING PLANTER WALLS SHOWN DASHED
02. REMOVE EXISTING CONCRETE SLAB SHOWN DASHED
03. REMOVE EXISTING STONE SHOWN DASHED
04. REMOVE EXISTING SHRUBS & TREES SHOWN DASHED.
05. REMOVE EXISTING CONCRETE SIDEWALK AT TOP OF RAMP WHERE JOINT IS UNEVEN WITH ADJACENT EXISTING SIDEWALK
06. EXISTING SIDEWALK TO REMAIN
07. EXISTING TREES & SHRUBS TO REMAIN
08. BLACK OUT EXISTING PARKING STRIPPING SHOWN DASHED - SEE AS101 FOR NEW STRIPP[ING LAYOUT.
09. REMOVE EXISTING DIRT DOWN TO 6" BELOW EXISTING BOTTOM BRICK - SEE AS101 FOR WATERPROOFING REQUIREMENTS
10. REMOVE EXISTING FLAG POLE AND BASE.
11. REMOVE EXISTING CONCRETE GARAGE APPROACH

GENERAL NOTES:

01. PRIOR TO BIDDING THE CONTRACTOR SHALL DETERMINE HIS MEANS AND METHODS FOR COMPLETING THE STRUCTURAL UPGRADES TO THE STRUCTURE. HE SHALL INCLUDE IN HIS BID THE COST TO REPLACE ANY ITEM SHOWN TO REMAIN THAT WILL BE REQUIRED TO BE REMOVE IN ORDER TO ACCESS THE FOOTING/FOUNDATION TO COMPLETE THE STRUCTURAL UPGRADE OF THE BUILDING. ITEMS SUCH AS PARKING ASPHALT, CURBS, APPROACH'S, SIDWALKS, FLOOR & WALL PATCHING ETC. THAT IS SHOWN TO REMAIN BUT MAY NEED TO BE REMOVE IN ORDER TO ACCESS THE STRUCTURE.

STATE OF UTAH · ERIC R. THOLEN · 129665 · LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
SITE DEMOLITION PLAN

REVISIONS	DATE	BY	DESCRIPTION
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△			
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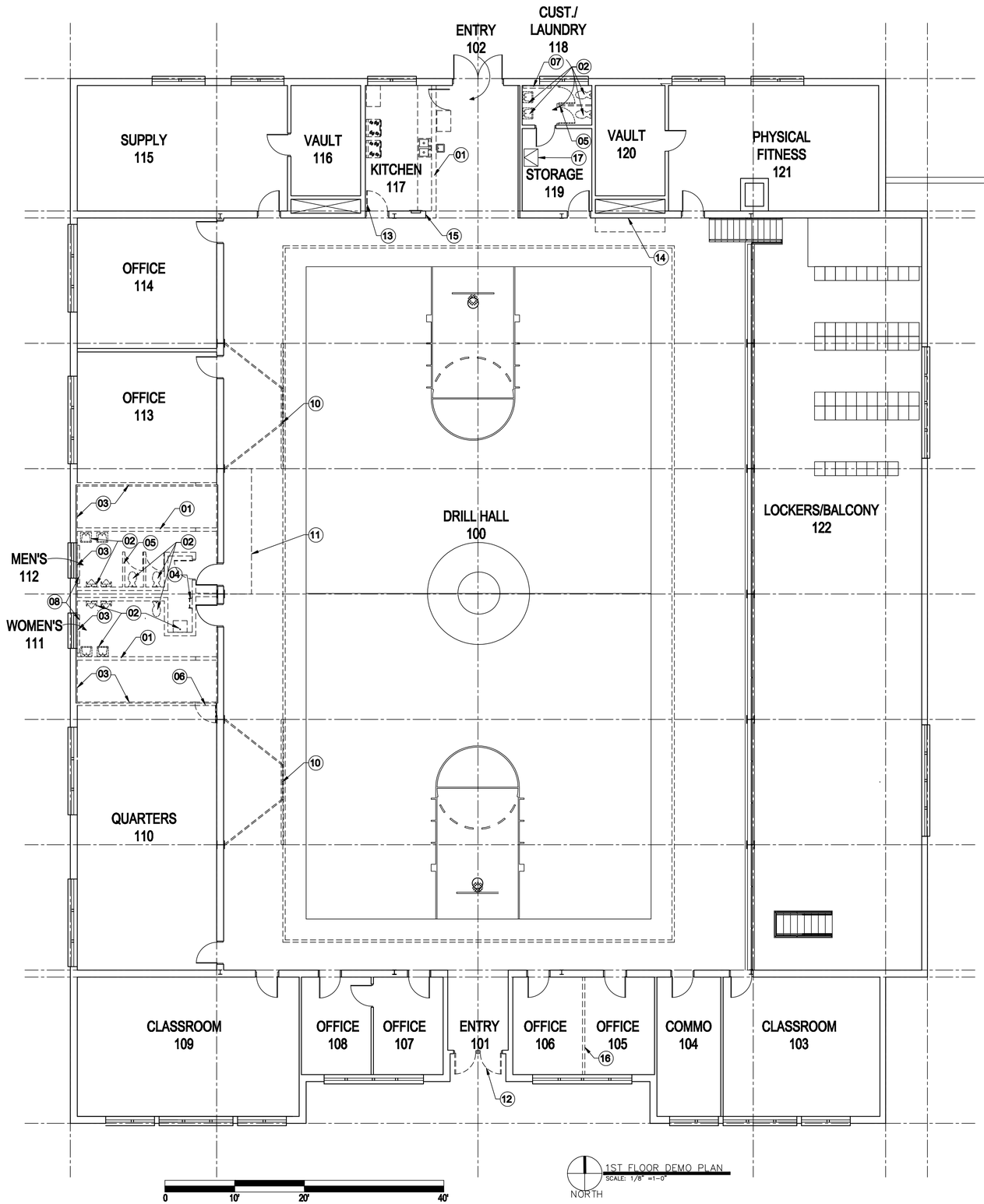
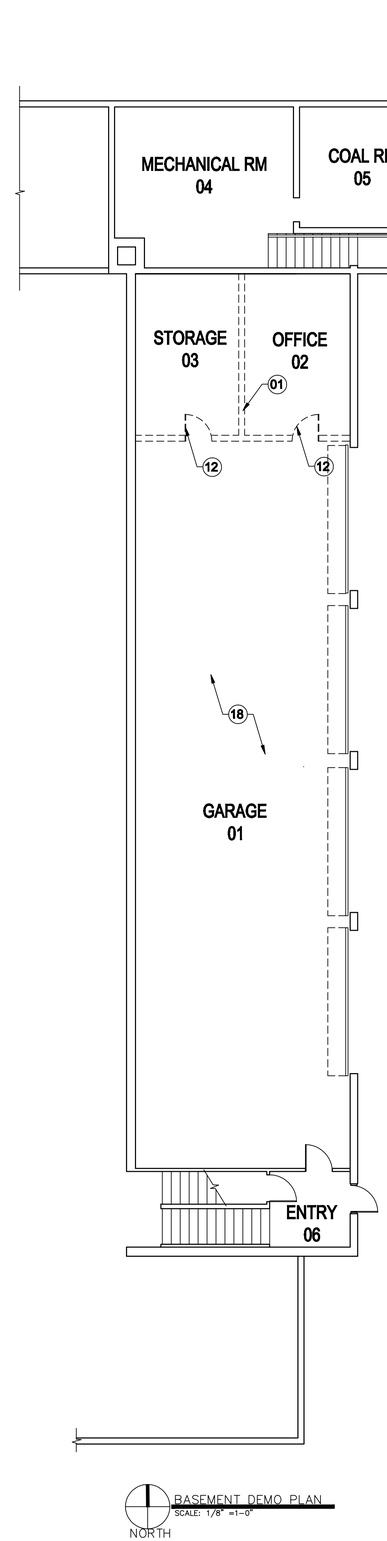
DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: SD101

Utah National Guard - Price Armory - Seismic Uporade



1ST FLOOR DEMO PLAN
SCALE: 1/8" =1-0"



BASEMENT DEMO PLAN
SCALE: 1/8" =1-0"

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1804
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01. REMOVE WALLS SHOWN DASHED

02. REMOVE EXISTING PLUMBING FIXTURES SHOWN DASHED AND ASSOCIATED PIPING THAT WILL NOT BE USED IN NEW CONFIGURATION

03. REMOVE GLAZED BLOCK TILE FROM THIS WALL

04. REMOVED EXISTING LADDER AND ROOF HATCH. REPAIR OPENING IN ROOF. SALVAGE LADDER AND HATCH FOR REUSE AT NEW LOCATION.

05. REMOVE EXISTING TOILET PARTITIONS.

06. REMOVE EXISTING DOOR, FRAME & JAMB

07. REMOVE AND RELOCATE WALL MOUNTED RADIATOR AS SHOWN ON ENLARGED FLOOR PLAN 2/AE401

08. REMOVE EXISTING WALL MOUNTED RADIATORS AND RECONFIGURE PIPING AS SHOWN IN MECHANICAL DRAWINGS

09. REMOVE EXISTING MIRRORS, SOAP & TOWEL DISPENSORS OFF WALLS

10. REMOVE EXISTING BASKETBALL STANDARD.

11. REMOVE EAGLE'S NEST.

12. REMOVE EXISTING DOOR.

13. REMOVE EXISTING DOOR FILL OPENING W/ CMU TO MATCH EXISTING.

14. REMOVE DUCTS (SEE MECHANICAL) AND PROTECTIVE CAGE, FILL OPENINGS W/ CMU TO MATCH EXISTING.

15. REMOVE EXISTING CMU WALL TO THE OPENING OF THE NEW PASS THRU.

16. REMOVE REMAINIG CMU WALL AND BEAM

17. EXISTING FLOOR HATCH TO REMAIN

OR TO BE

STATE OF UTAH
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6-17-09

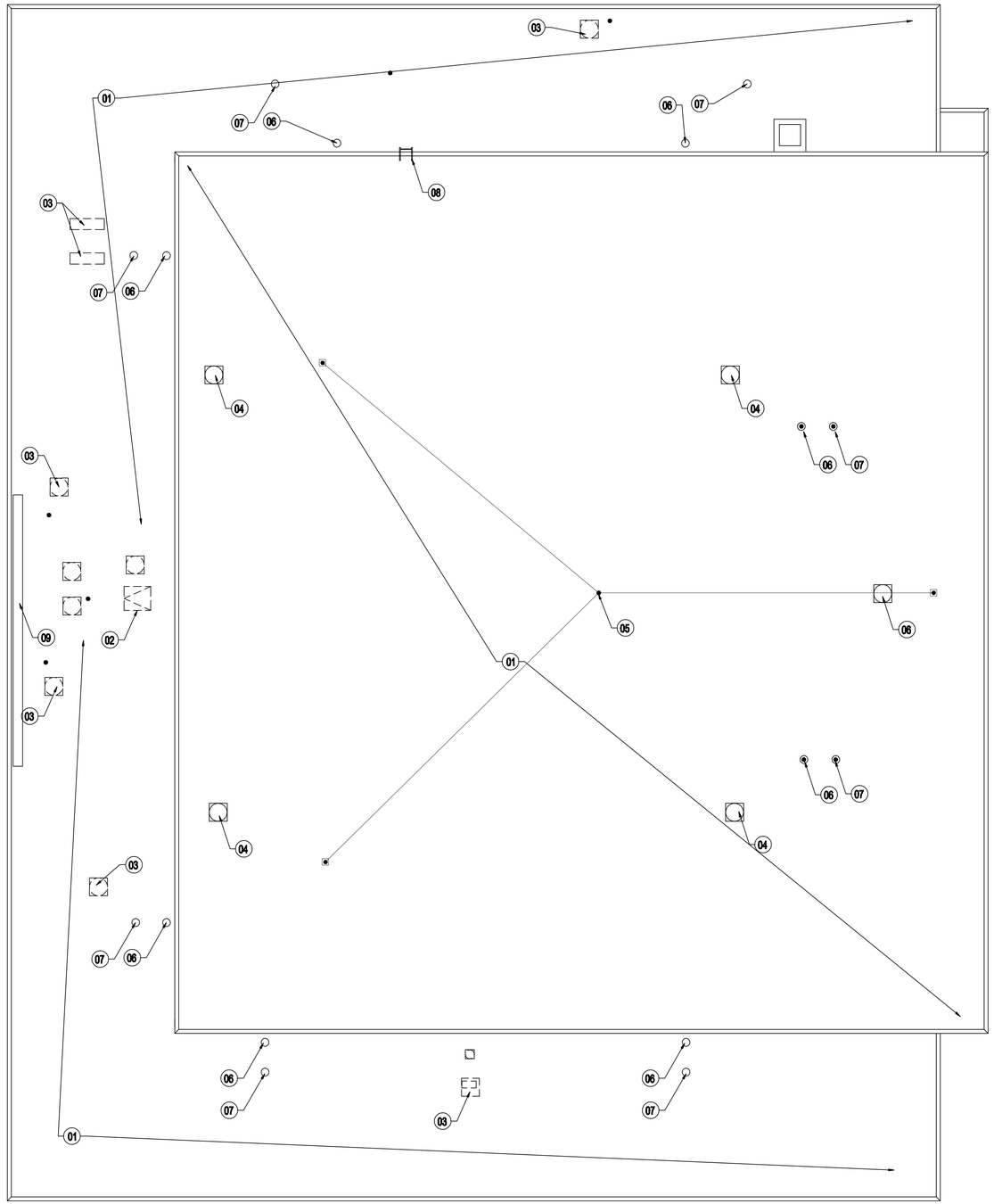
Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
594 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
DEMOLITION PLAN

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: AD101

Utah National Guard_Price Armory_Price_Utah



DEMOLITION PLAN
SCALE: 1/8" =1-0"

NORTH

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01. REMOVE EXISTING BUILT-UP ROOFING SYSTEM IN IT ENTIRETY DOWN TO THE WOOD DECKING.

02. REMOVE EXISTING ROOF ACCESS HATCH AND SALVAGE FOR RELOCATION AS SHOWN ON ROOF PLAN

03. REMOVE EXISTING ROOF TOP VENTS, CONDESORS, EXHAUST FANS & HOODS ETC. AS CALLED OUT ON THE MECHANICAL DRAWINGS TO BE REMOVED. VERIFY WITH MECHANICAL ALL ITEMS TO BE REMOVED OR RELOCATED. TYPICAL OF ALL ITEMS PENETRATING THE ROOF.

04. EXISTING VENTALATION HOODS & CURBS ON UPPER ROOF TO REMAIN.

05. EXISTING ANTENNA AND ANCHORS FOR SUPPORT CABLES TO REMAIN.

06. EXISTING ROOF DRAIN TO REMAIN

07. EXISTING OVERFLOW DRAIN TO REMAIN

08. EXISTING LADDER TO UPPER ROOF TO REMAIN

09. EXISTING UTAH NATIONAL GUARD SIGN - SALVAGE REFURBISH & REINSTALL

GENERAL NOTES

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ROOF DEMOLITION PLN

REVISIONS	DATE	BY	DESCRIPTION
△			
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DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: AD109

STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

COLLEGE OF EASTERN UTAH TRACK

EXISTING 6" SEWER LINE

EXISTING 4" SEWER LINE

EXISTING 8" WATER LINE

TOP OF FIRE HYDRANT BM 100'-0"

EXISTING POWER LINE

EXISTING 2 1/2" WATER LINE

SIXTH NORTH

VETERANS LN.

292'

181'-9½"

25'

LEGEND

- PROPERTY LINE — PL
- POWER LINE — PP
- WATER LINE — W
- SANITARY SEWER — SS
- GAS LINE — GAS — GAS
- CHAIN LINK FENCE

SITE PLAN
SCALE: 1/16" =1'-0"

NORTH

KEYED NOTES

01. NEW PLANTER AND SIDEWALK RETAINING WALLS
02. NEW CONCRETE SLAB
03. NEW LANDSCAPING - SEE LANDSCAPING PLAN
04. REPLACE EXISTING SIDEWALK SHOWN HATCHED AT TOP OF RAMP WHERE JOINT IS UNEVEN WITH ADJACENT EXISTING SIDEWALK
05. EXISTING SIDEWALK TO REMAIN
06. EXISTING TREES & SHRUBS TO REMAIN
07. RESTRIPE PARKING AS SHOWN
08. WHERE BRICK EXTEND BELOW GRADE, REMOVE EXISTING EARTH DOWN TO A MINIMUM 6" BELOW EXISTING BOTTOM BRICK AND WATERPROOF ALL BRICK BELOW GRADE.
09. INSTALL NEW FLAG POLE HERE - SEE G18/AE301 FOR FLAG POLE INSTALLATION REQUIREMENTS
10. EXISTING CURB AND PARKING ASPHALT TO REMAIN.
11. NEW CONCRETE STAIRS.
12. NEW ACCESSIBLE SIDEWALK
13. CUT BACK OF CURB OUT SO THAT ACCESSIBLE SIDEWALK IS FLUSH WITH BOTTOM OF CURB
14. REPLACE EXISTING CONCRETE GARAGE APPROACH
15. NEW HANDRAIL
16. ACCESSIBLE ROUTE TO BUILDING
17. VAN ACCESSIBLE PARKING SIGN - SEE AE701
18. TRANSFORMER - SEE ELECTRICAL
19. PROVIDE 3 BOLLARDS TO PROTECT TRANSFORMER - VERIFY LOCATION WITH ELECTICAL

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CONSULTANT INFORMATION

STATE OF UTAH · ERIC R. THOLEN · 129665 · LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
SITE PLAN

REVISIONS	DATE	BY	DESCRIPTION
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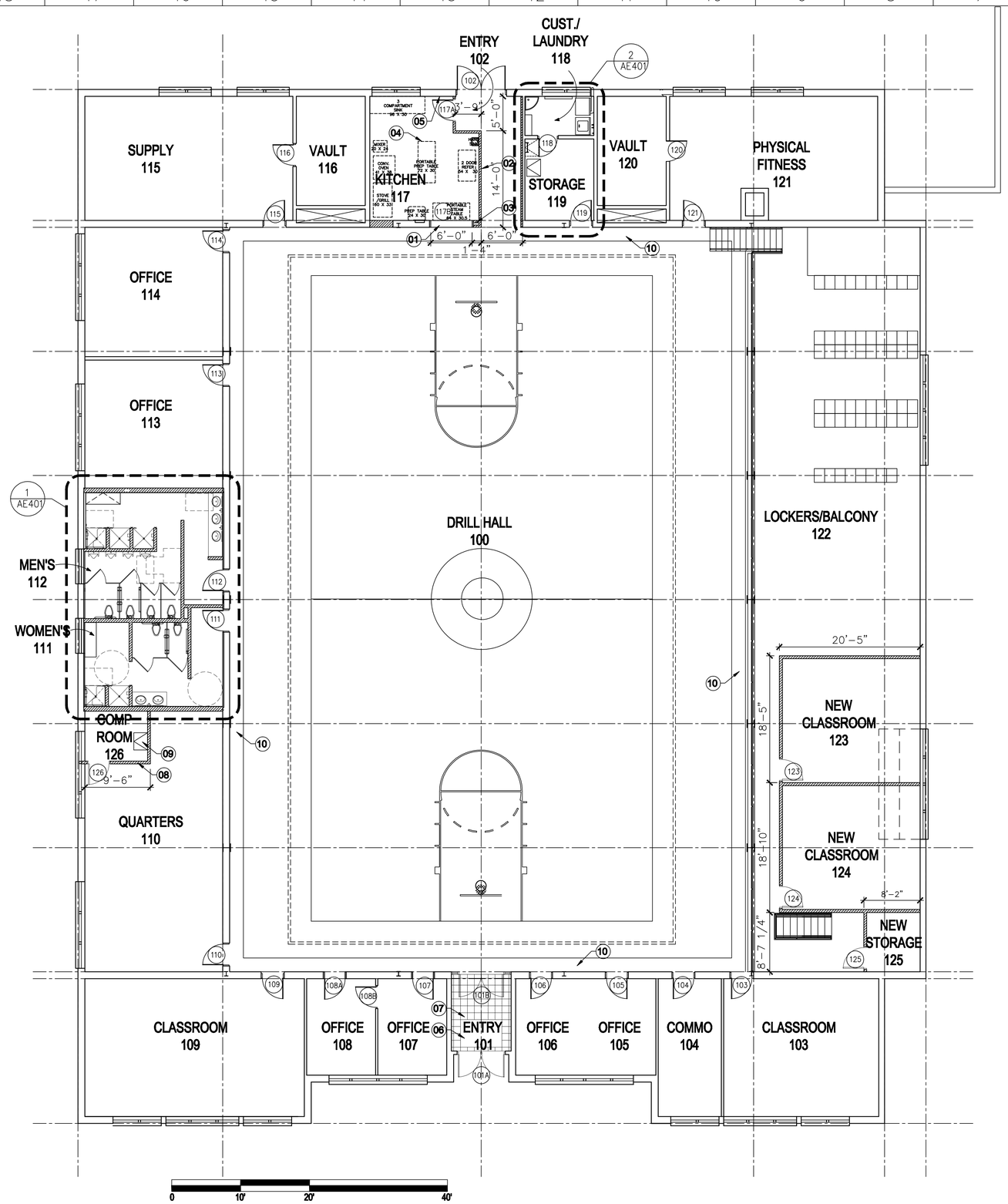
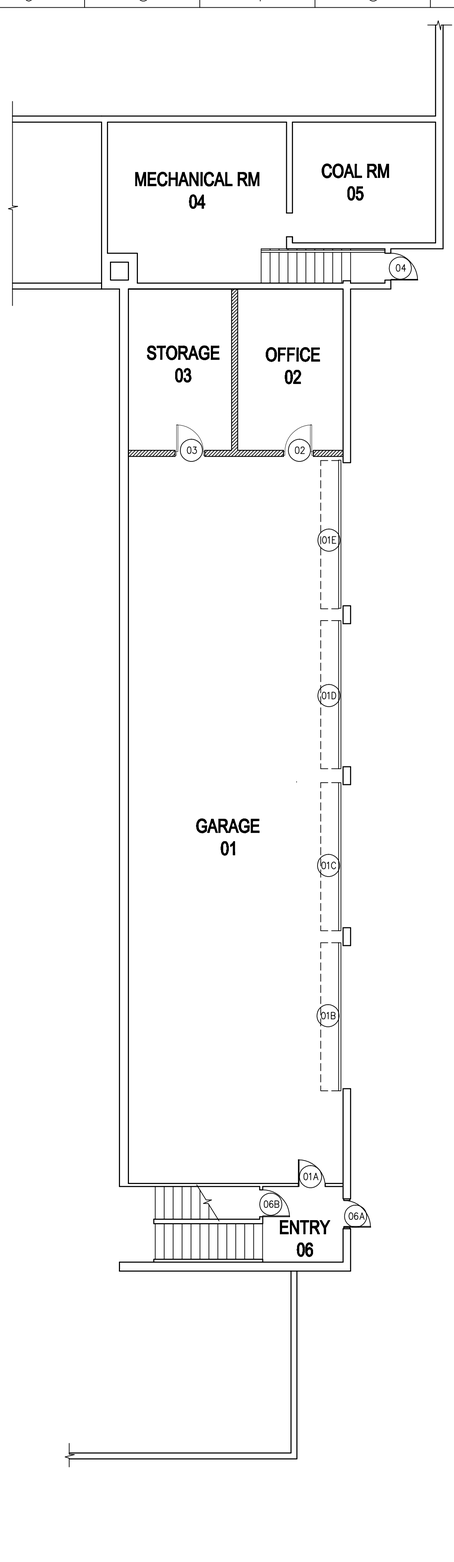
DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: AS101

Utah National Guard - Price Armory - Seismic Upgrade





EFT
ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01. PASS THRU OPENING IN WALL. BOTTOM OF OPENING TO BE 34" AFF. TOP OF OPENING TO BE 7'-4".

02. ONE HOUR METAL STUD FIRE SEPARATION WALL ATTACHED TO DECK. SEE DETAIL H18/AE701

03. DOUBLE STUD WALL TO BE FLUSH ON BOTH SIDES OF EXISTING WALL .

04. FUTURE KITCHEN EQUIPMENT DASHED IN.

05. WALL MAY NEED TO BE FURRED OUT TO KEEP NEW TILE ON ONE PLANE.

06. RECESSED WALK-OFF MAT

07. TILE FLOOR SEE FINISH SCHEDULE

08. WALL TO BE CENTERED ON WINDOW MULLION

09. 30" FLOOR HATCH LOCATE BETWEEN EXISTING JOISTS .

10. EPOXY PAINT PERIMETER OF DRILL HALL W/ 24" WIDE STRIPE TO COVER CONCRETE PATCHES FROM INSTALLATION OF THE MICRO PILES. COLOR BY ARCHITECT.

STATE OF UTAH
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129665
LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
FLOOR PLAN

REVISIONS	DATE	BY	DESCRIPTION
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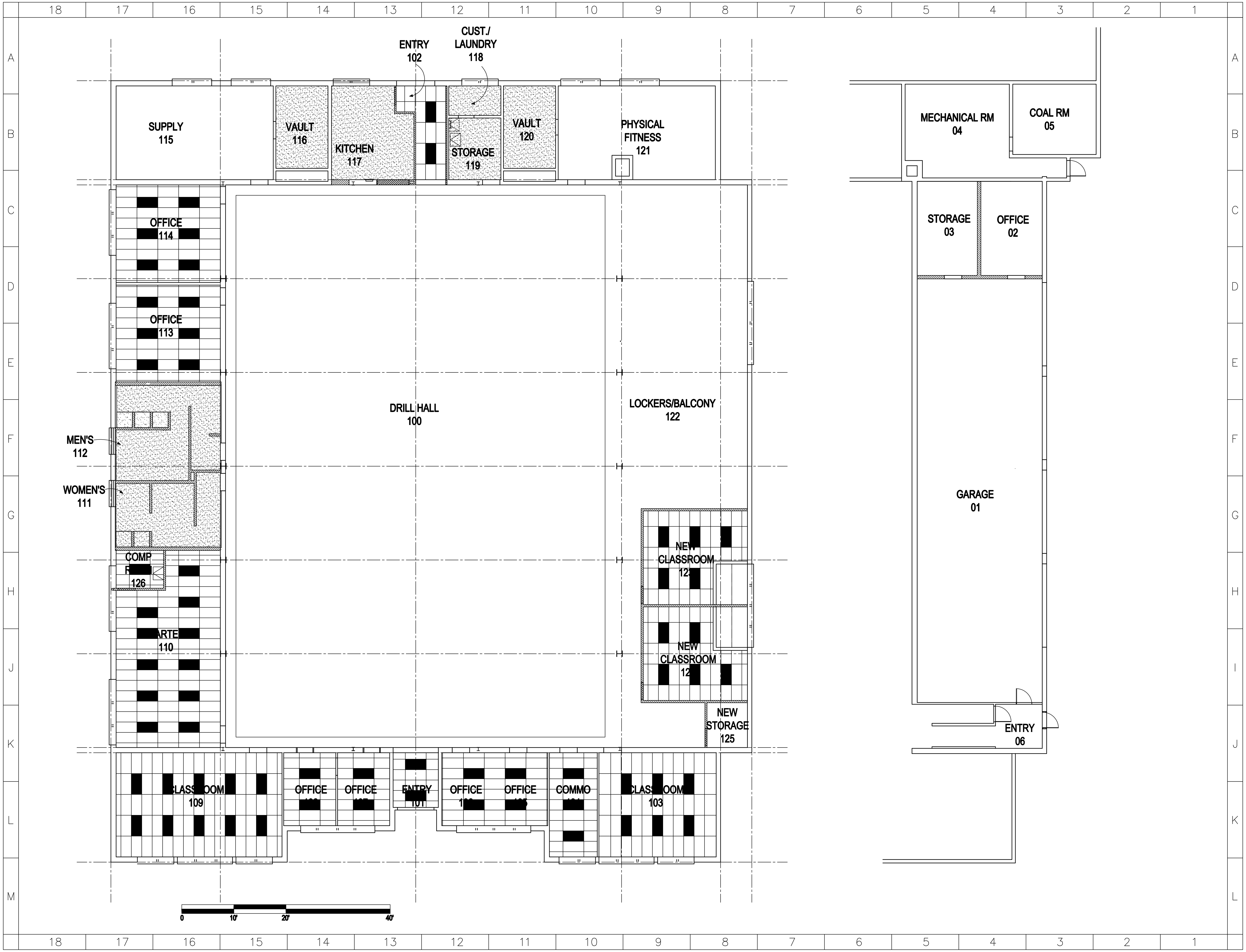
DRAWN BY JRA | CHECKED BY ERT

PROJECT NO. 08297840

DATE JUNE 17, 2009

DRAWING NO. AE101

Utah National Guard Price Armory Price, Utah



EFT ARCHITECTS

265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01.

STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

Utah National Guard

PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE

RCP PLAN

REVISIONS	DATE	BY	DESCRIPTION
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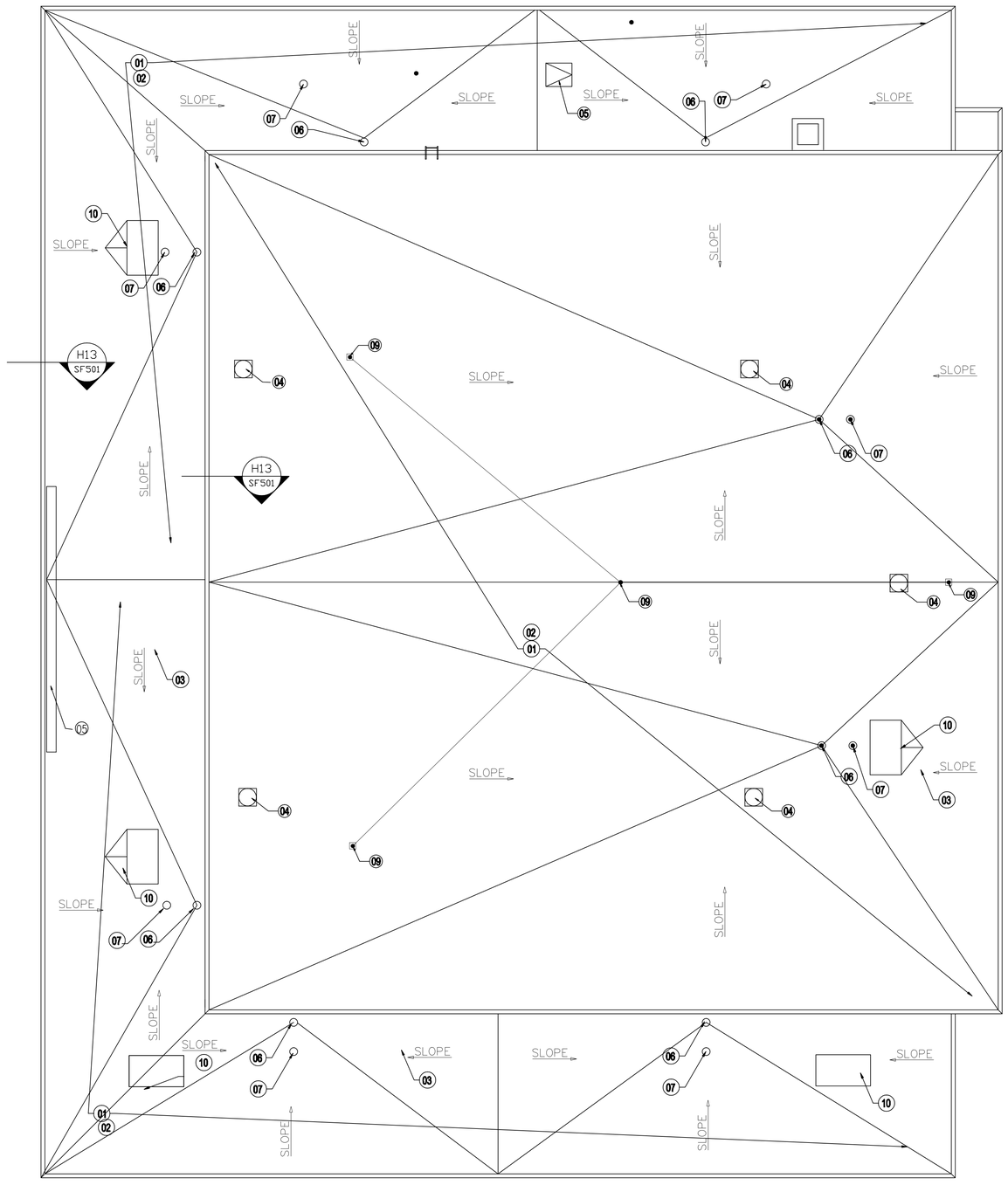
DRAWN BY JRA	CHECKED BY ERT
PROJECT NO. 08297840	DRAWING NO. AE102
DATE JUNE 17, 2009	



ROOF PLAN
SCALE: 1/8" =1'-0"
NORTH

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01. INSTALL PLYWOOD SHEATHING OVER THE ENTIRE ROOF. SEE STRUCTURAL DRAWING FOR ATTACHMENT PATTERN AND SHEATHING REQUIREMENTS

02. RE-ROOF THE ENTIRE BUILDING WITH NEW SBS MODIFIED SYSTEM AS SPECIFIED

03. CURBS FOR NEW ROOF TOP EQUIPMENT TO BE PROVIDED BY MECHANICAL CONTRACTOR - COORDINATE LOCATION, SIZE ETC. WITH MECHANICAL - MECHANICAL EQUIPMENT SHALL NOT BE LOCATED CLOSER THAN 10'-0" FROM ANY ROOF EDGE

04. EXISTING EXHAUST HOOD AND CURB TO REMAIN - REFLASH AS REQUIRED

05. REINSTALL SALVAGED ROOF HATCH AND LADDER BELOW HERE. COORDINATE PLACEMENT WITH WALLS IN ROOM BELOW. SEE FLOOR PLAN FOR RELOCATION OF LADDER BELOW

06. EXISTING ROOF DRAIN TO REMAIN

07. EXISTING OVERFLOW DRAIN TO REMAIN

08. REINSTALL REFURBISHED "UTAH NATIONAL GUARD" SIGN IN SAME LOCATION AS IT WAS REMOVED FROM.

09. EXISTING ANTENNA & SUPPORT CABLE ANCHORS TO REMAIN

10. NEW ROOF TOP UNIT (SEE MECHANICAL FOR SIZE, LOCATION & EXTENT OF GAS LINE NEEDING SUPPORT) PROVIDE CRICKETS SO WATER FLOWS AROUND UNIT AS REQUIRED

GENERAL NOTES

01.

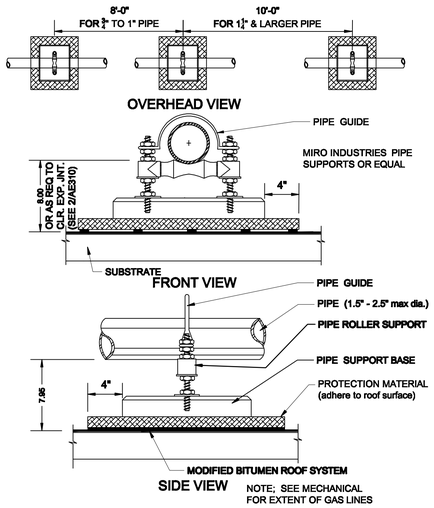
STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

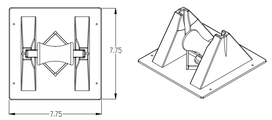
SHEET TITLE
ROOF PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: AE109



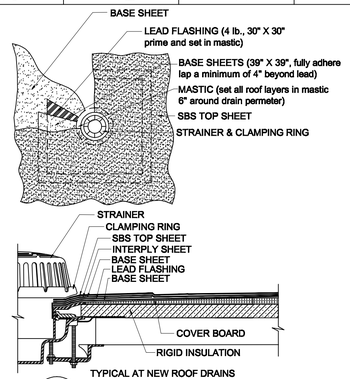
4 AE110 1 1/2" TO 2 1/2" PIPE SUPPORT DETAIL
SCALE: 1 1/2" =1-0"



NOTE; SEE MECHANICAL FOR
EXTENT OF GAS LINES

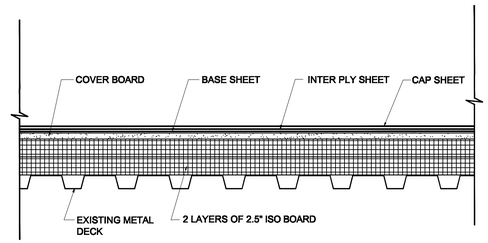
MIRO INDUSTRIES PIPE

8 AE110 1/2" TO 1 1/4" PIPE SUPPORT
SCALE: N.T.S.

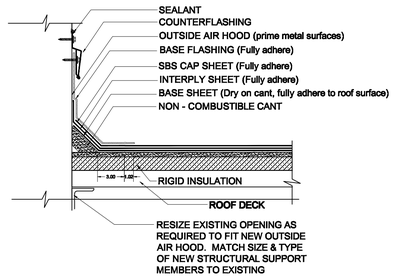


TYPICAL AT NEW ROOF DRAINS

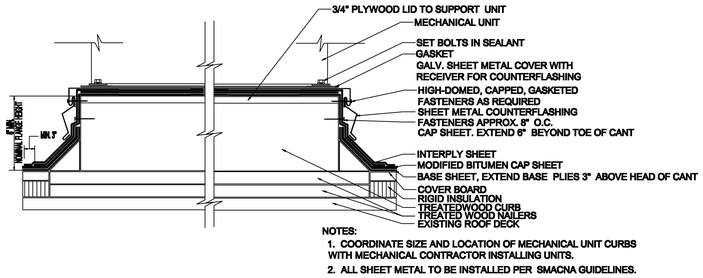
3 AE110 TYPICAL ROOF DRAIN DETAIL
SCALE: 1 1/2" =1-0"



2 AE110 TYPICAL ROOF SYSTEM DETAIL
SCALE: 1 1/2" =1-0"

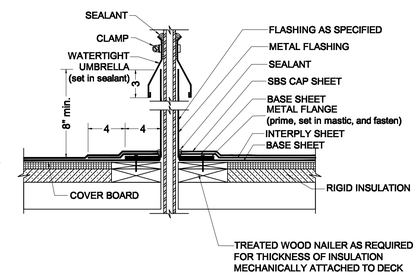


1 AE110 TYPICAL WALL FLASHING
SCALE: 1 1/2" =1-0"

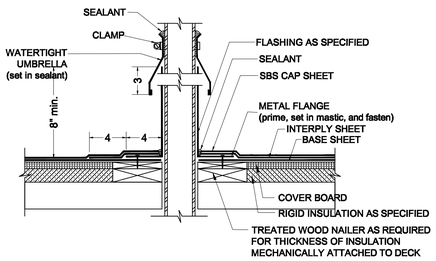


NOTES:
1. COORDINATE SIZE AND LOCATION OF MECHANICAL UNIT CURBS WITH MECHANICAL CONTRACTOR INSTALLING UNITS.
2. ALL SHEET METAL TO BE INSTALLED PER SMACNA GUIDELINES.

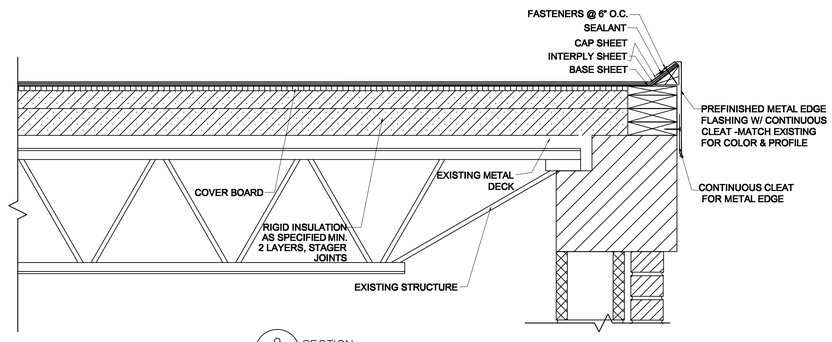
7 AE110 MECHANICAL UNIT CURB DET.
SCALE: 1 1/2" =1-0"



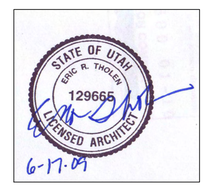
6 AE110 TYPICAL CONDUIT OR SMALL PIPE FLASHING DETAIL
SCALE: 1 1/2" =1-0"



5 AE110 TYPICAL PIPE FLASHING DETAIL
SCALE: 1 1/2" =1-0"



9 AE110 SECTION
SCALE: 1 1/2" =1-0"



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CONSULTANT INFORMATION

KEYED NOTES

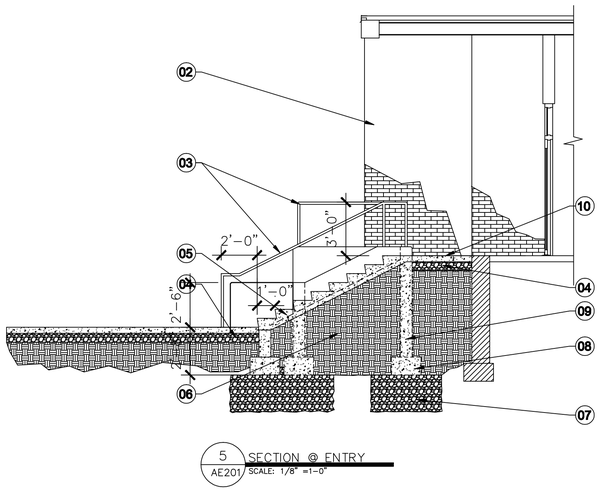
GENERAL NOTES

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS
AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ROOF DETAILS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY JRA
CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. AE110



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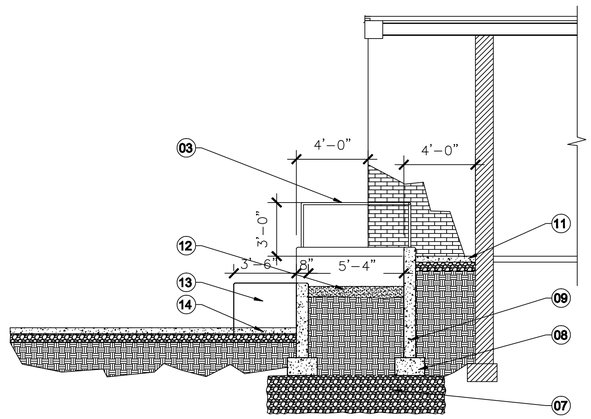

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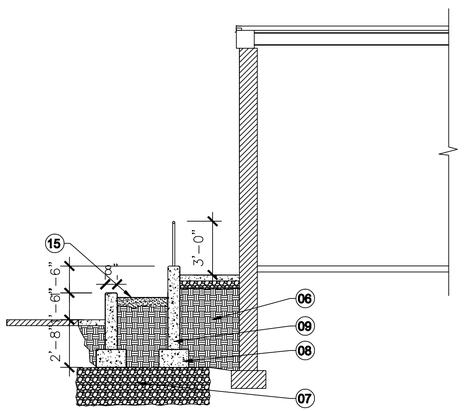

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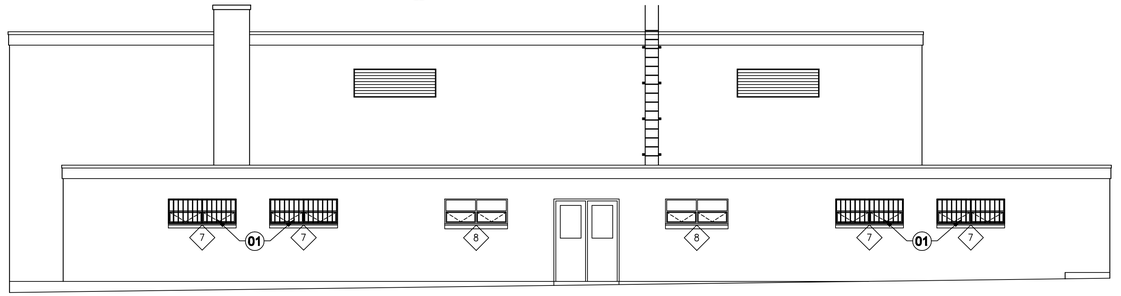
AE201 SCALE: 1/8" =1-0"

1 WEST ELEVATION
AE201 SCALE: 1/8" =1-0"



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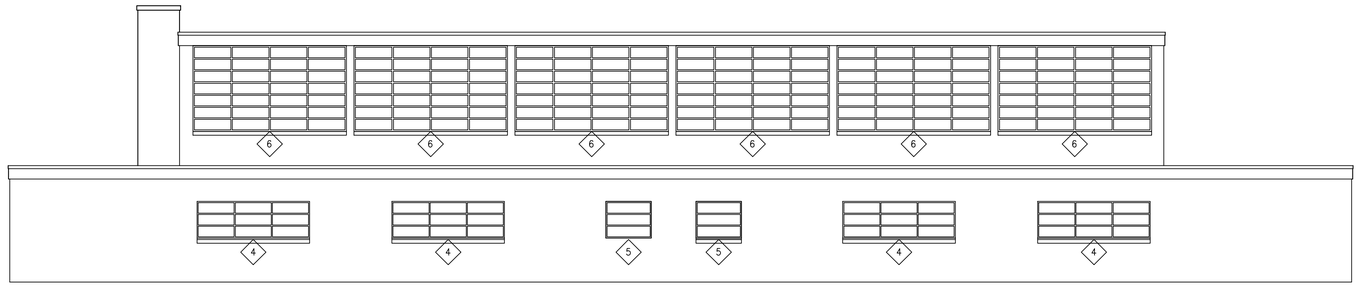

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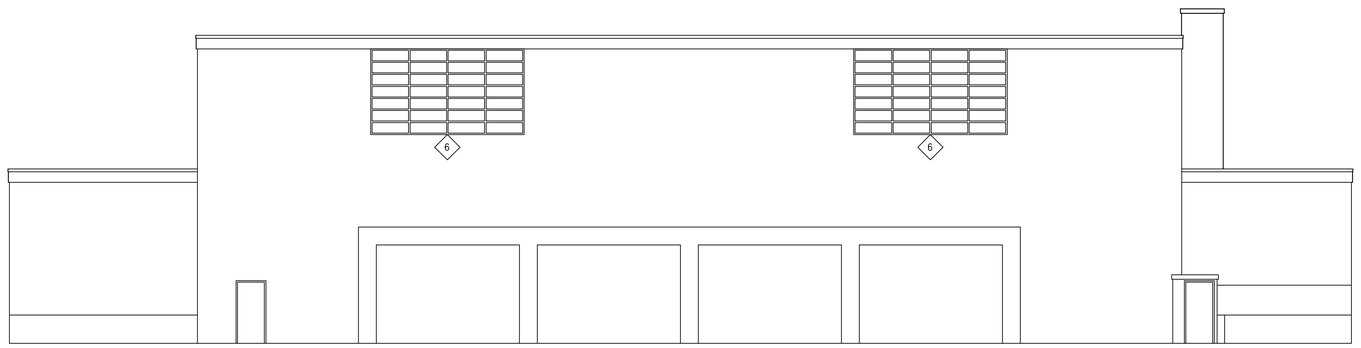

4 SOUTH ELEVATION
AE201 SCALE: 1/8" =1-0"

EFT ARCHITECTS

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CONSULTANT INFORMATION

KEYED NOTES

01. STEEL SECURITY BARS. SEE DETAIL G8/AE301

02. EXISTING STRUCTURE

03. NEW HANDRAIL EACH SIDE OF STAIR & ALONG SIDEWALK.

04. 4" STRUCTURAL FILL TYP.

05. #4 REBAR @ 12" O.C. IN STAIR

06. COMPACTED FILL

07. STRUCTURAL FILL 2'-0" BELOW AND 1'-0" TO EACH SIDE OF FOOTING COMPACTED TO 92%

08. 2 – #4 REBAR CONTINUOS TYP

09. #4 REBAR @ 16" O.C. BOTH WAYS. TYP

10. 4" CONCRETE AND SIDEWALK. TYP

11. EXPANSION JOINT ALONG WALL TYP

12. 6" TOPSOIL HOLD DOWN 4" FROM T.O. WALL

13. PLANTER BEYOND.

14. 4" CONCRETE SLAB #3 REBAR @ 18" O.C.

15. SEE LANDSCAPE FOR PLANTING

STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
EXTERIOR ELEVATIONS

REVISIONS	DATE	BY	DESCRIPTION
△			
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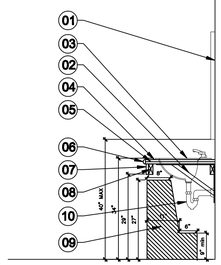
DRAWN BY JRA | CHECKED BY ERT

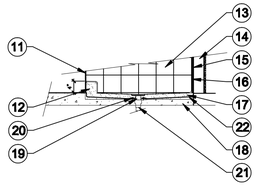
PROJECT NO. 08297840

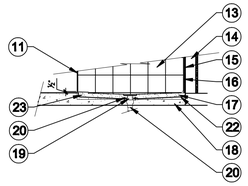
DATE JUNE 17, 2009

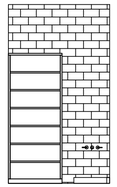
DRAWING NO. AE201

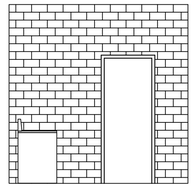
Utah National Guard - Price Armory - Price, Utah

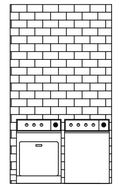


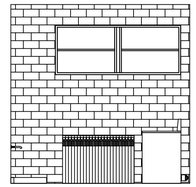




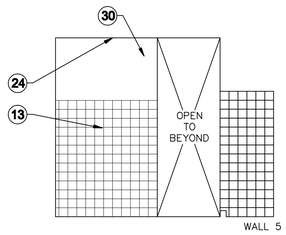




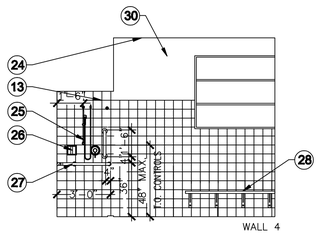




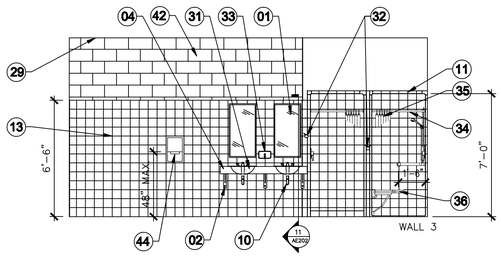
C18 SINK COUNTER
1/2"=1'-0"



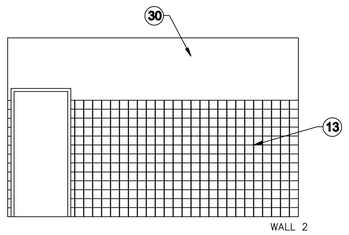
C15 STANDARD SHOWER BASE
1/2"=1'-0"

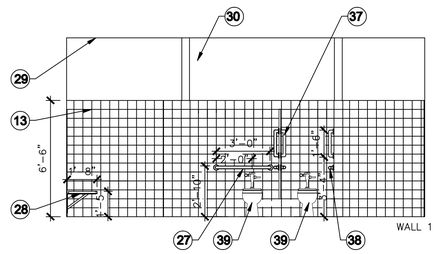


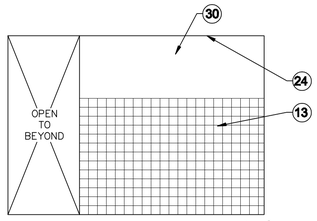
C12 ADA SHOWER BASE
1/2"=1'-0"

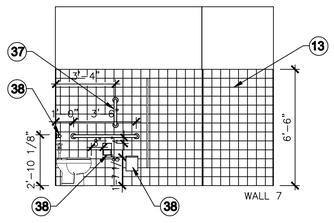


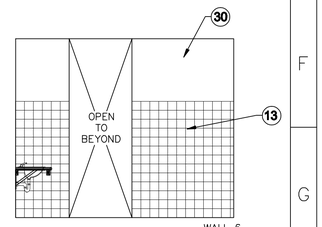
C8 CUST/LAUNDRY ELEVATIONS
1/4"=1'-0"



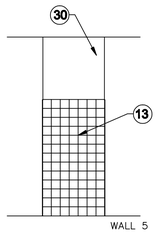


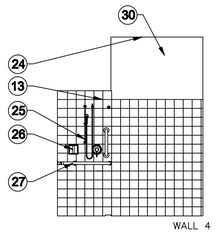


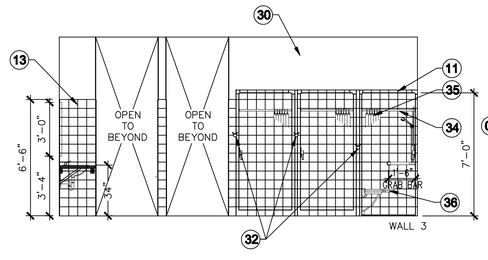


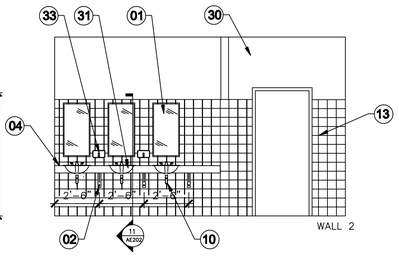


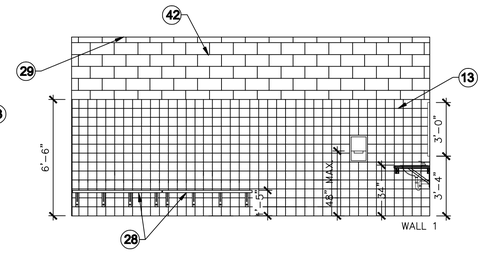
H14 WOMEN'S RESTROOM ELEVATIONS
1/4"=1'-0"

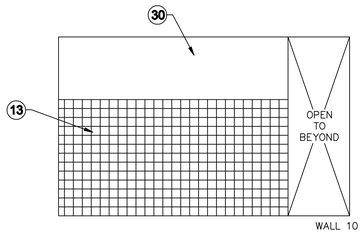


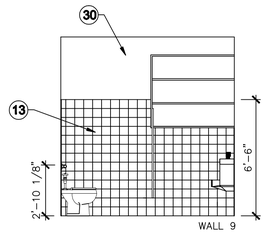


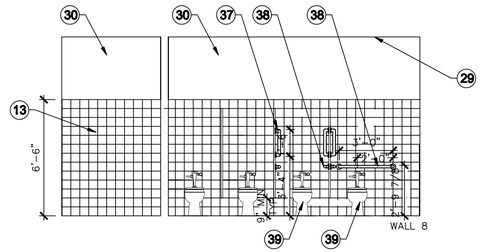


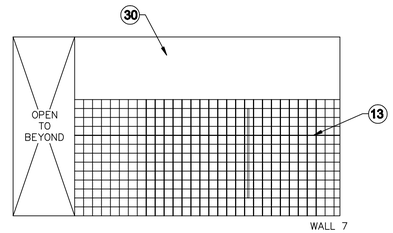


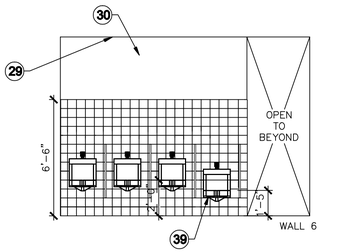












M18 MEN'S RESTROOM ELEVATIONS
1/4"=1'-0"

EFT ARCHITECTS

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CONSULTANT INFORMATION

KEYED NOTES

01. 18 W X 36 H MIRROR – TBA #6
02. HEAVY DUTY STEEL BRACE
03. ACCESSIBLE LAVATORY W/ ACCESSIBLE FAUCET – TYPICAL.
04. SOLID SURFACE COUNTER TOP
05. 2 LAYERS ¾" HIGH DENSITY PARTICLE BOARD.
06. BULLNOSE SOLID SURFACE
07. SOLID SURFACE FACING
08. 2 X 4 SUPPORT BEAM FRONT AND BACK – NOTCH AROUND SUPPORT BRACES AS REQUIRED TO FIT TIGHT TO WALL.
09. ACCESSIBLE KNEE SPACE – KEEP CLEAR OF ALL OBSTRUCTIONS.
10. P–TRAP WITH UNDER LAVATORY GUARD – TBA #11
11. 2 X 6 CERAMIC TILE TRIM.
12. SHOWER CURB AT STANDARD SHOWER – 4" HIGH.
13. 6" X 6" CERAMIC TILE: CT–3
14. 6" METAL STUD
15. CEMENT BOARD
16. CERAMIC TILE
17. BLOCK OUT CONCRETE FLOOR AT SHOWER FOR CONCRETE MORTOR BASE SHOWER PAN LINER
18. CONCRETE FLOOR
19. ADJUSTABLE DRAIN
20. LOCKING RING
21. DRAIN BODY
22. SHOWER PAN LINER
23. SHOWER CURB AT ACCESSIBLE SHOWER – MAX 1/2" HIGH.
24. PAINT EXISTING CEILING
25. ACCESSIBLE SHOWER UNIT
26. SOAP DISH
27. GRAB BAR TBA #4
28. 5'–0" X 1'–8" ACCESSIBLE BENCH
29. NEW GYP BOARD CEILING
30. PAINTED GYP BOARD
31. SINK
32. ROBE HOOK – TBA #10
33. LIQUID–SOAP DISPENSER – TBA #3
34. CURTAIN ROD – TBA #7
35. SHOWER CURTAIN – TBA #8
36. FOLDING SHOWER SEAT – TBA #9
37. VERTICAL GRAB BAR – TBA #4
38. HORIZONTAL GRAB BARS 42" – TBA #4
39. ACCESSIBLE TOILET
40. TOILET TISSUE DISPENSER – TBA #1
41. SANITARY NAPKIN DISPOSAL – TBA #5
42. PAINTED CMU
43. ACCESSIBLE URINAL
44. PAPER TOWEL DISPENSER – TBA #2

STATE OF UTAH · JAMES R. ANDERSON · 129665 · LICENSED ARCHITECT
6.17.09

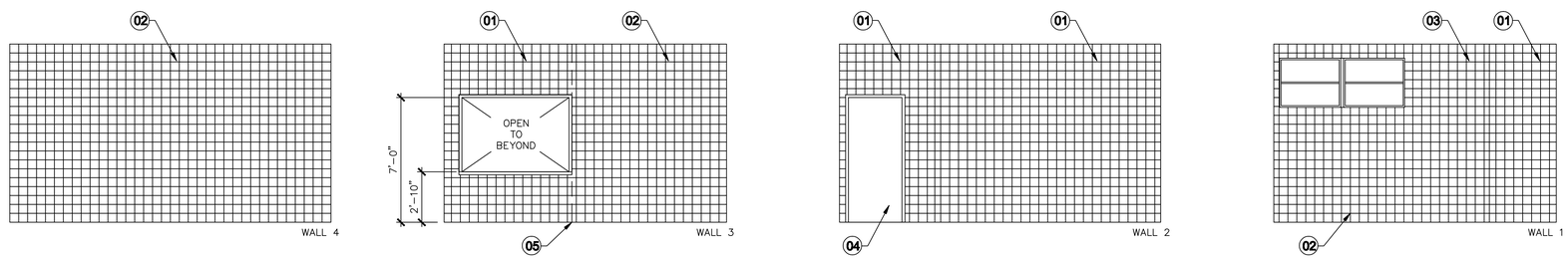
Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
INTERIOR ELEVATIONS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 08297840
DRAWING NO.: AE202
DATE: JUNE 17, 2009

Utah National Guard - Price Armory - Seismic Upgrade



M18 KITCHEN ELEVATIONS
1/4"=1'-0"

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CONSULTANT INFORMATION

KEYED NOTES

01. 6" X 6" CERAMIC TILE: CT-3
02. 6" x 6" CERAMIC TILE OVER EXISTING TILE: CT-3
03. WALL FURRED OUT TO KEEP TILE ON A SIGLE PLANE.
04. SCHEDULED DOOR
05. EXISTING CMU REMOVED BACK TO THIS POINT.

STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

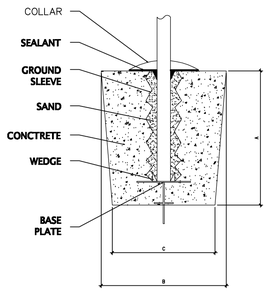
Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
594 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
INTERIOR ELEVATIONS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY JRA
CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. AE203

Utah National Guard - Price Armory - Seismic Upgrade



Flagpole Installation - Ground Sleeve Specifications
Shaft Foundation Dimensions

HEIGHT	BUTT DIAMETER	SLEEVE DIAMETER DEPTH	A - DIAMETER	B - DIAMETER	C - DIAMETER
30'	5"	8"	3' 6"	30"	24"
30'	6"	10"	3' 6"	30"	24"

Commercial Flagpole Installation Instructions - Groundset

1. Set sleeve into hole so that top of tube is 2" above grade. Plumb sleeve vertically and brace so that sleeve will not move during pour. Pour concrete and trowel to desired finish. Keep inside of sleeve dry and free of concrete. Cover top of sleeve if shaft has not been delivered.

2. Lay shaft on sawhorses, and remove wrappings from top and bottom of shaft, and from around cleat area. Leave balance of wrappings on shaft for protection during the set. If pole is two or three piece, assemble sections per instructions on reverse side.
3. Screw truck into top of pole, using pipe wrench to tighten. Screw threaded ball-stem into top of truck until ball will not turn further. Using wrench, tighten jam-nut against top of truck. Thread one end of rope halyard through the truck pulley and tape or tie ends of rope together. Flagsnaps may be attached after pole is erected. (If pole is double halyard system, repeat operation for second halyard.)

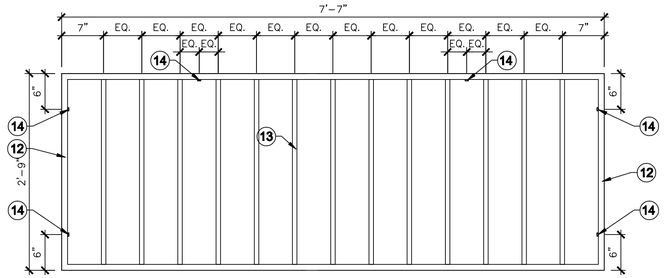
4. Using screws supplied, mount cleat(s) to shaft over drilled and tapped holes approximately 5' above tar-line. (If cleat covers are used, mount them at the same time, using the same holes.) Slip collar on bottom of shaft, and temporarily tape it to wrappings above tar-line.

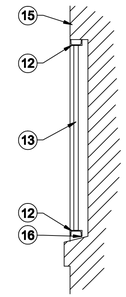
5. Pick up shaft with nylon sling, rotate pole so that cleats will face in the desired direction, and set into center of foundation sleeve. If pole is two or three piece, a nylon choker must be used to prevent the bottom section from slipping off when lifted. Plumb pole vertically. Place wood wedges (not supplied) between pole and sleeve to prevent pole from shifting during final set.

6. Tamp dry sand between pole and sleeve to permanently set pole. Be certain that sand is well compacted, otherwise pole may shift at a later time. Leave a 1" to 2" void at top of sleeve for sealer. Remove wedges, fill void with waterproof cement or sealant, and slip collar down pole onto concrete. Caulk into place on concrete, and around pole. Remove remainder of wrappings from pole.

7. Attach flag snaps to halyard by forming a loop in the rope, running the loop through the swivel-eye and over the snap, then pulling rope taut. Adjust distance between flagsnaps to accommodate the size flag being flown. Attach flag, run to peak, and tie off halyards on cleat.

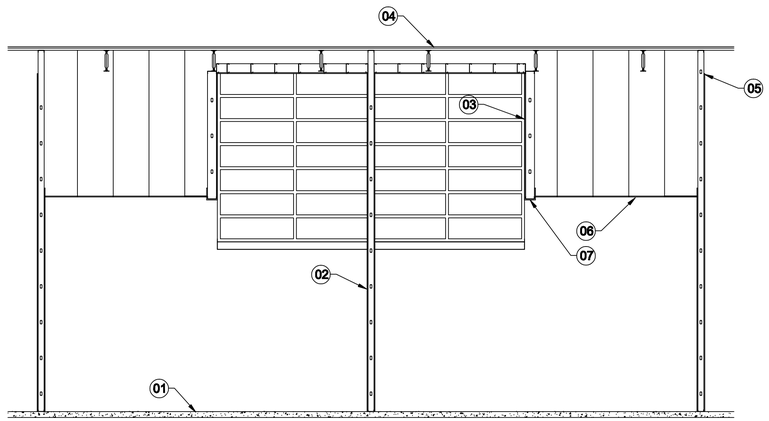
G18 FLAG POLE INSTALLATION INSTRUCTIONS
1/4"=1'-0"



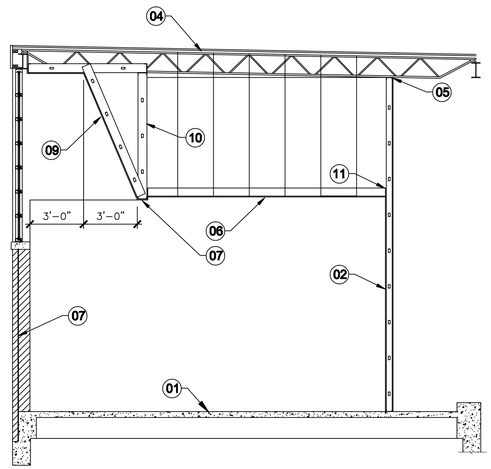


SECTION

G8 STEEL SECURITY BARS
1/4"=1'-0"



M14 CLASSROOM SECTION
1/4"=1'-0"



M5 CLASSROOM SECTION
1/4"=1'-0"

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CONSULTANT INFORMATION

KEYED NOTES

01. EXISTING CONCRETE FLOOR
02. 5/8" GYP BD ON 4" 20 GA. STEEL STUDS @ 16 O.C. WITH BLOCKING @ 48" O.C. ATTACHED TO STRUCTURE ABOVE
03. 5/8" GYP BD ON 6" STEEL STUDS ATTACHED TO ROOF DECK.
04. EXISTING ROOF STRUCTURE
05. GYP BD TO STOP @ THE BOTTOM OF EXISTING ROOF TRUSS.
06. LAY-IN CEILING @ 12'-0" AFF
07. LINTEL 11'-10" AFF
08. EXISTING CMU W/ BRICK VENEER WALL
09. 5/8" GYP BD ON 6" STEEL STUD
10. 6" STUD ATTACHED TO STRUCTURE
11. GYP BD TO EXTEND 6" ABOVE CEILING
12. CHANNEL - C2 X 1.59
13. 3/4" X 3/4" BAR WELDED TO CHANNEL
14. ANCHOR BOLT, TACK WELD TO FRAME TO PREVENT REMOVAL.
15. EXISTING BUILDING
16. 1/4" GAP BETWEEN CONCRETE SILL AND SECURITY BAR.

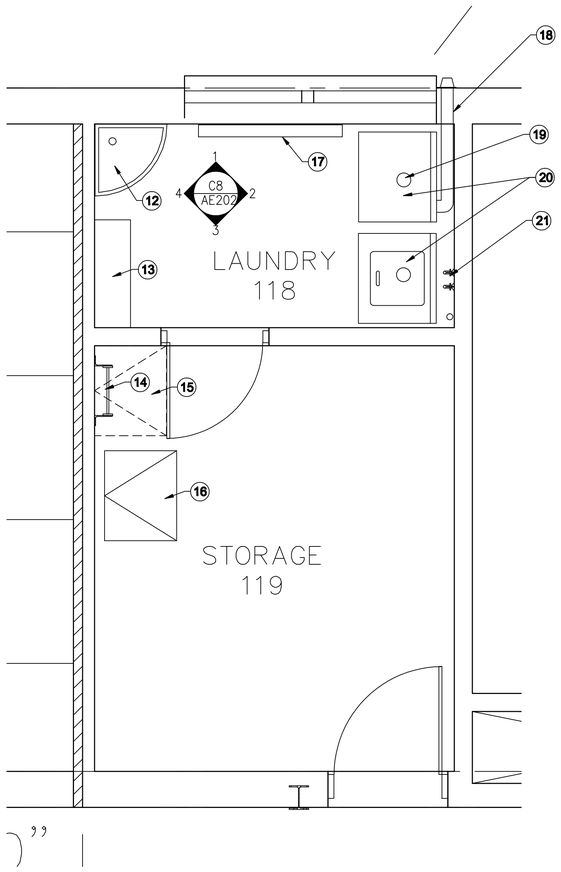
STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
594 NORTH 800 EAST
PRICE, UTAH

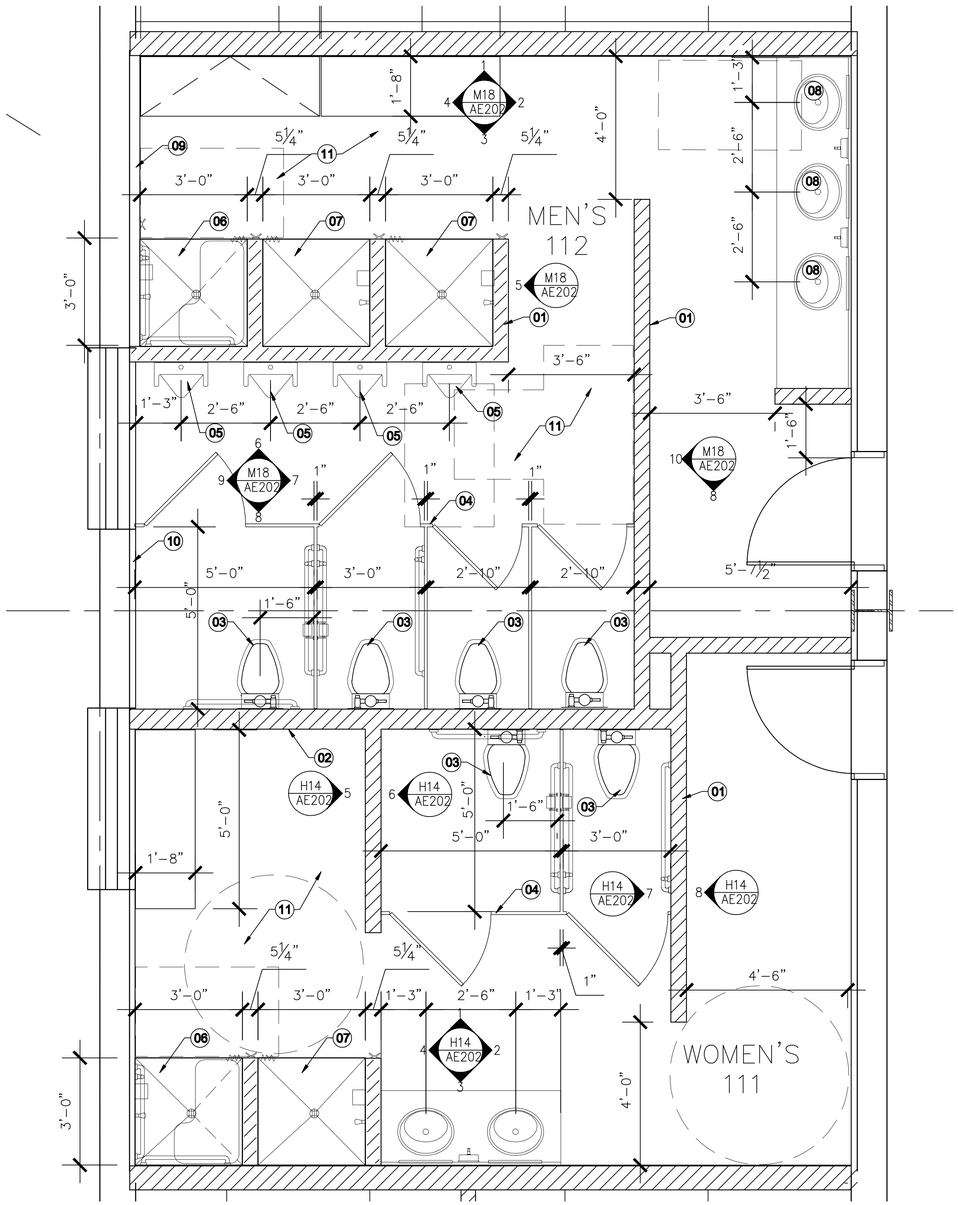
SHEET TITLE
SECTIONS & DETAILS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY JRA
CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. AE301



2 / AE401 ENLARGED UTILITY RM. PLAN
SCALE: 1/2" =1-0"



1 / AE401 ENLARGED RESTROOM PLAN
SCALE: 1/2" =1-0"

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1804
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

01. 5/8" GYP. BD ON 3 5/8" METAL STUD PARTITION WALL.
02. 5/8" GYP. BD ON 5 1/2" METAL STUD PLUMB WALL.
03. FLOOR MOUNT TOILET
04. TOILET PARTIONS
05. URINAL WALL HUNG
06. ADA TILED SHOWER
07. TILED SHOWER
08. SINK
09. FUR OUT WALL 5/8" GYP BD OVER 3 5/8" STUD TO ACCOMIDATE PLUMBING.
10. FUR OUT WALL 5/8" GYP BD OVER 7/8" HAT CHANNEL.
11. TILE FLOOR – CT-1
12. FLOOR SINK – SEE PLUMBING
13. WALL CABINET (NIC)
14. RELOCATE ROOF ACCESS LADER HERE
15. RELOCATE ROOFHATCH HERE
16. EXISTING FLOOR ACCESS HATCH
17. RELOCATE HEATER (SEE MECH)
18. PROVIDE DRYER VENT THROUGH WALL
19. PATCH FLOOR WHERE TOILET DRAINS WERE REMOVED
20. WASHER & DRYER (NIC)
21. NEW FAUCETS FOR WASHER (SEE PLUMBING)

STATE OF UTAH
ERIC R. THOLEN
129665
LICENSED ARCHITECT
6-17-09

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ENLARGED PLANS

REVISIONS	DATE	BY	DESCRIPTION
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DRAWN BY JRA
CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. AE401

Utah National Guard - Price Armory - Price, Utah

DOOR SCHEDULE

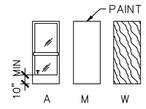
DOOR #	ROOM NAME	DOOR TYPE	DOOR NEW DOOR	DOOR SIZE	DOOR GLASS	FRAME PROFILE	FRAME FRAME TYPE	THRESHOLD	HARDWARE GROUP	FIRE RATING	REMARKS
101A	ENTRY 101	A	X	S2	IG2	B	2	T1	HW-1		NEW STOREFRONT SYSTEM PANIC HARDWARE
101B	ENTRY 101	A	X	S2	G2	B	3	T1	HW-2		NEW STOREFRONT SYSTEM
102	ENTRY 102	M									EXISTING DOOR PAINT
103	CLASSROOM 103	W									EXISTING DOOR REFINISH
104	COMMO 104	W									EXISTING DOOR REFINISH
105	OFFICE 105	W									EXISTING DOOR REFINISH
106	OFFICE 106	W									EXISTING DOOR REFINISH
107	OFFICE 107	W									EXISTING DOOR REFINISH
108A	OFFICE 108A	W									EXISTING DOOR REFINISH
108B	OFFICE 108B	W									EXISTING DOOR REFINISH
109	CLASSROOM 109	W									EXISTING DOOR REFINISH
110	QUARTERS 110	W									EXISTING DOOR REFINISH
111	WOMEN'S 111	W							HW-3		EXISTING DOOR REFINISH
112	MEN'S 112	W							HW-3		EXISTING DOOR REFINISH
113	OFFICE 113	W									EXISTING DOOR REFINISH
114	OFFICE 114	W									EXISTING DOOR REFINISH
115	SUPPLY 115	W	X	SEE NOTE							FIELD MEASURE FOR SIZE
116	VAULT 116	V									EXISTING DOOR PAINT
117A	KITCHEN 117	W	X	S1		A	1		HW-4	20 MIN.	
117B	KITCHEN 117										ROLL UP COUNTER DOOR
118	CUST/LAUNDRY 118	W									EXISTING DOOR REFINISH
119	STORAGE 119	W									EXISTING DOOR REFINISH
120	VAULT 120	V									EXISTING DOOR PAINT
121	PHYSICAL FITNESS 121	W	X	SEE NOTE							FIELD MEASURE FOR SIZE
122	LOCKERS/BALCONY 122	N/A									
123	CLASSROOM 123	W	X	S1		A	1		HW-5		
124	CLASSROOM 124	W	X	S1		A	1		HW-5		
125	STORAGE 125	W	X	S1		A	1		HW-5		
126	COMPUTER ROOM 126	W	X	S1		A	1		HW-5		
01A	GARAGE 01	M	X	S1		A	1		HW-5		REPLACE WOOD FRAME W/ METAL
01B	GARAGE 01	M									EXISTING ROLL UP DOOR PAINT
01C	GARAGE 01	M									EXISTING ROLL UP DOOR PAINT
01D	GARAGE 01	M									EXISTING ROLL UP DOOR PAINT
01E	GARAGE 01	M									EXISTING ROLL UP DOOR PAINT
02	OFFICE 02	M	X	S1		A	1		HW-5		REPLACE WOOD FRAME W/ METAL
03	STORAGE 03	M	X	S1		A	1		HW-5		EXISTING DOOR PAINT
04	MECHANICAL 04	W									EXISTING DOOR PAINT
05	COAL ROOM 05	N/A									
06A	ENTRY 06	M									EXISTING DOOR PAINT
06B	ENTRY 06	W	X	S1		A	1		HW-5		REPLACE WOOD FRAME W/ METAL

S	SIZE
S1	3'-0" x 7'-0" x 1 3/4"
S2	DOUBLE 3'-3" x 7'-0" x 1 3/4"

T	THRESHOLD
T1	ACCESSIBLE METAL THRESHOLD

GENERAL NOTES:

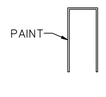
1. DOORS TO BE SET TO CLEAR FINISHED FLOOR SURFACE BY 1/2"



DOOR TYPES

A = STOREFRONT
M = METAL
W = WOOD
V = VAULT

FRAME PROFILES



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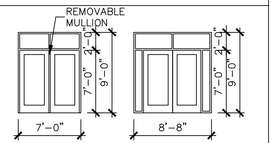
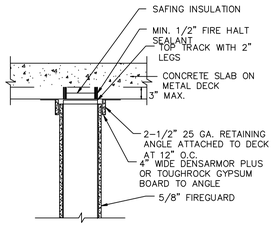
FRAME TYPES



NOTE: FIELD VERIFY DIMENSIONS



H18 FIRE WALL DETAIL
1"=1'-0"

FINISH SCHEDULE

ROOM NO.	ROOM NAME	BASE	FLR.	WALLS NORTH MATERIAL & FINISH	WALLS EAST MATERIAL & FINISH	WALLS SOUTH MATERIAL & FINISH	WALLS WEST MATERIAL & FINISH	CEILING TYPE	CEILING HEIGHT	MISC. NOTES
100	DRILL HALL	RB	W/EX	PM	PM	PM	PM	P	EX	1
101	ENTRY	RB	CT-4	PM	PM	PM	PM	AC	EX	
102	ENTRY	RB	VCT	PM	P	PM	P	P	EX	
103	CLASSROOM	RB	C	PM	PM	PM	P	AC	EX	
104	COMO	RB	C	PM	P	PM	P/PM	AC	EX	
105	OFFICE	RB	C	PM	P	PM	P	AC	EX	
106	OFFICE	RB	C	PM	P	PM	PM	AC	EX	
107	OFFICE	RB	C	PM	PM	PM	P	AC	EX	
108	OFFICE	RB	C	PM	P	P	PM	AC	EX	
109	CLASSROOM	RB	C	PM	P/PM	PM	PM	AC	EX	
110	BUNKS	RB	C	P/PM	PM	PM	P/PM	AC	EX	
111	WOMEN'S	CT-3	CT-1	P/CT-3	P/CT-3	PM/CT-3	P/CT-3	P	EX	
112	MEN'S	CT-3	CT-1	PM/CT-3	P/CT-3	P/CT-3	P/CT-3	P	EX	
113	OFFICE	RB	C	P	PM	PM	P	AC	EX	
114	OFFICE	RB	C	PM	PM	P	PM	AC	EX	
115	SUPPLY	RB	C	PM	P	PM	PM	AC	EX	
116	VAULT	RB	EX	PM	PM	PM	PM	P	EX	
117	KITCHEN	CT-3	CT-1	CT-3	CT-3	CT-3	CT-3	P	EX	
118	CUSTODIAN/LAUNDRY	EX	CT-1	P	P	P	P	P	EX	
119	STORAGE	RB	VCT	PM	P	PM	PM	P	EX	
120	VAULT	RB	EX	PM	PM	PM	PM	P	EX	
121	PHYSICAL/FITNESS	RB	?	PM	PM	PM	P	P	EX	
122	LOCKER/BALCONY	RB	EX	PM	PM	PM	N/A	P	EX	1
123	CLASSROOM	RB	C	P	PM	P	P	P/AC	12'-0"	
124	CLASSROOM	RB	C	P	PM	P	P	P/AC	12'-0"	
125	STORAGE	RB	EX	P	PM	P	P	AC	9'-0"	
126	I.T.	RB	VCT	PM	P	P	PM	AC	EX	
01	GARAGE	N/A	EX	PM	PM	PM	PM	EX	EX	
02	OFFICE	RB	EX	PM	P	P	PM	P	EX	
03	STORAGE	RB	EX	PM	PM	P	P	P	EX	
04	MECHANICAL	N/A	EX	EX	EX	EX	EX	EX	EX	
05	COAL ROOM	N/A	EX	EX	EX	EX	EX	EX	EX	

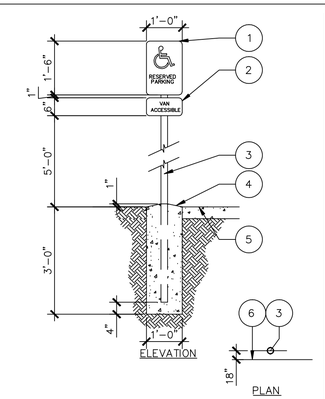
WALLS
P = PAINTED GYP.BD.
PM = PAINTED MASONRY
CT-3 = CERAMIC TILE
EX = EXISTING TO REMAIN

FLOOR
CT-1 = CERAMIC TILE
CT-2 = QUARRY TILE
CT-4 = PAVER TILE AT ENTRY
C = CARPET TILE
VCT = VINYL TILE
EX = EXISTING TO REMAIN
CTW = CARPET TILE (WALK OFF)
W = WOOD SPORTS FLOOR

BASE
RB = RESILIENT BASE
CT-3 = CERAMIC TILE
EX = EXISTING TO REMAIN

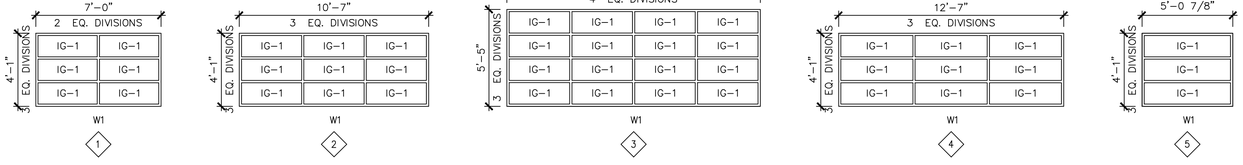
CEILING
P = PAINTED GYP.BD.
EX = EXISTING TO REMAIN
AC = SUSPENDED ACOUSTICAL PANEL CEILING

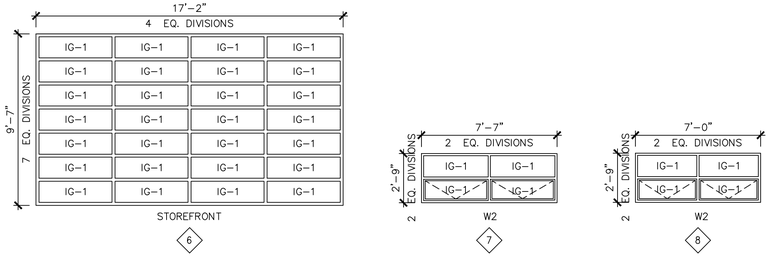
MISC. NOTES 1 REPAINT WALLS TWO TONE TO MATCH EXISTING LEVELS AND ENTIRE CEILING, BEAMS & COLUMNS.



1	.080 ALUMINUM PLAQUE W/ RADIUSED CORNERS; STANDARD BLUE REFLECTIVE BACKROUND, WHITE REFLECTIVE SYMBOL.
2	.080 ALUMINUM PLAUQE W/ RADIUSED CORNERS; STANDARD BLUE REFLECTIVE BACKROUND, WHITE REFLECTIVE TEXT: "VAN ACCESIBLE"
3	2" sq. ALUMINUM POST; PREFINISHED
4	STEEL TROWEL FINISH
5	TOP OF WALK (OR A/C OR GRADE WHERE OCCURS).
6	BACK OF CURB/ SIDEWALK

TYPICAL ACCESSIBLE SIGNAGE FOOTING
SCALE: 1/2" = 1'-0"





M18 WINDOW SCHEDULE
1/4"=1'-0"

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1804
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION

KEYED NOTES

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
FINISH & DOOR SCHED.

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
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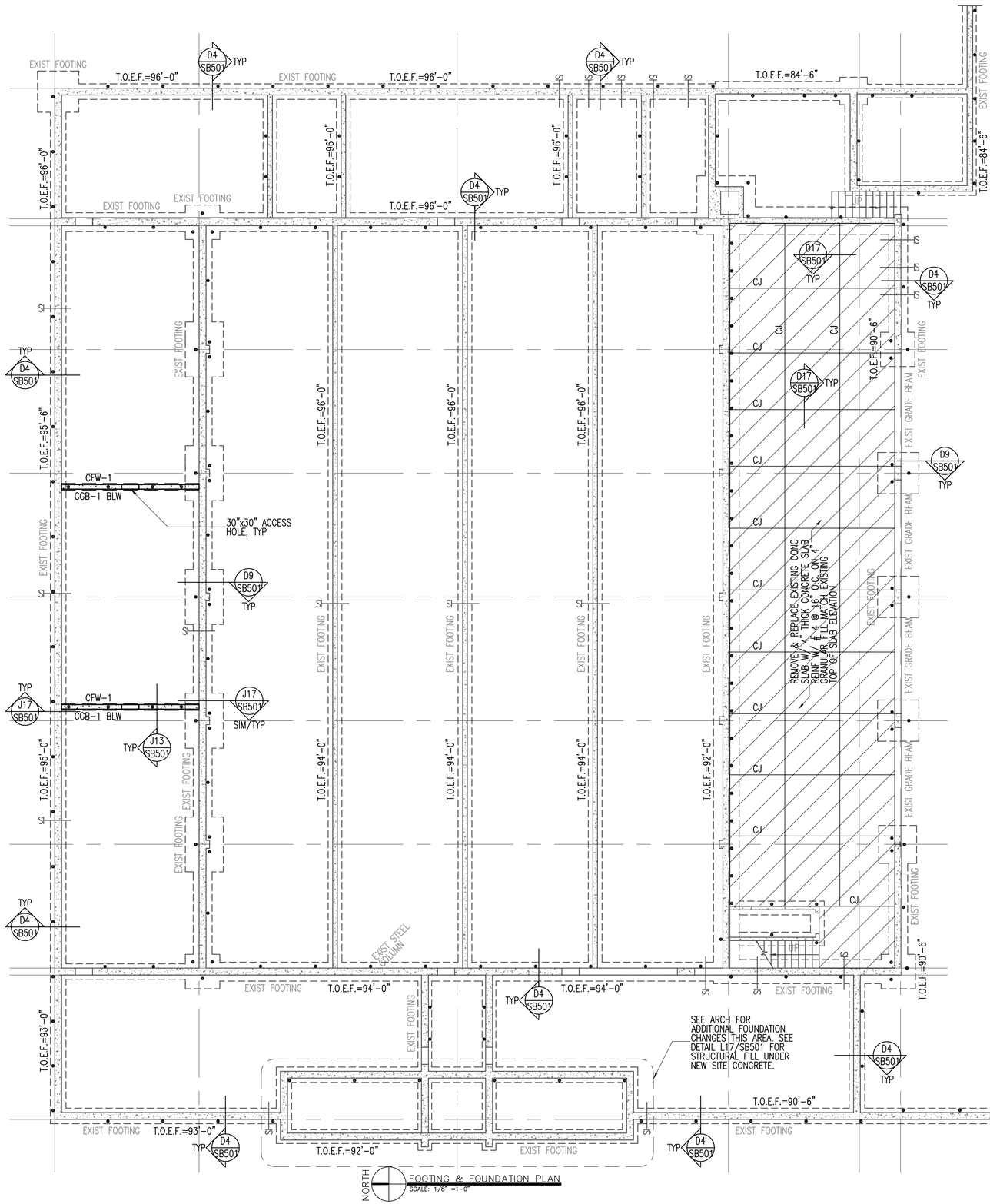
DRAWN BY JRA | CHECKED BY ERT
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. AE701

Utah National Guard - Price Armory - Seismic Upgrade



FOOTING & FOUNDATION PLAN
SCALE: 1/8" =1-0"

EXISTING CONDITIONS FOUNDATION PLAN NOTES

1. CONTRACTOR SHALL REFER TO EXISITNG DRAWINGS FOR INFORMATION REGARDING EXISTING FOOTING & FOUNDATION.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION, REMOVAL & REPLACEMENT, EXCAVATIONS, DETAILING, MANUFACTURING, FORMING OR INSTALLING ANY GIVEN FOOTING & FOUNDATION ELEMENT.
3. ALL DIMENSIONS PROVIDED ARE FOR BIDDING PURPOSES ONLY, FIELD VERIFY.
4. IF CONDITIONS SHOWN DO NOT MATCH EXISTING CONDITIONS, CONTACT A/E AS SOON AS POSSIBLE. DO NOT PROCEED WITH DEMOLITION OR CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING OF EXISTING STRUCTURE THAT IS TO REMAIN.
6. CONTRACTOR SHALL NOT DAMAGE EXISTING STRUCTURE THAT IS TO REMAIN DURING DEMOLITION OR NEW CONSTRUCTION.
7. EXISTING MASONRY WALL, FOOTING & FOUNDATION REINFORCING SHALL NOT BE DAMAGED DURING EPOXY DOWEL OR ANCHOR INSTALLATION.
8. ALL POST INSTALLED EPOXY & EXPANSION ANCHORS SHALL MEET OR EXCEED ACI 318-05 APPENDIX D REQUIREMENTS FOR CRACKED CONCRETE APPLICATIONS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF REPLACEMENT OF EXISTING ELEMENTS TO REMAIN THAT ARE DAMAGED OR REMOVED DURING CONSTRUCTION.

EXISTING ITEMS PLAN LEGEND

LEG-EXIST

- EXISTING FOOTING – CONTINUOUS
- EXISTING FOOTING – SQUARE, RECTANGULAR, OR MAT
- EXISTING FOUNDATION WALL
- EXISTING OPENING THROUGH CONCRETE WALL
- IS EXISTING FOOTING STEP

FOOTING & FOUNDATION PLAN LEGEND

LEG-FOOTING

- CONCRETE FOUNDATION WALL
- CONCRETE GRADE BEAM
- MICROPILE
- CJ / CJ SLAB CONTROL/CONSTRUCTION JOINT
- SPECIAL SLAB AREA

FOOTING & FOUNDATION PLAN NOTES

NOTE-FOOTING

1. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS ETC.
2. SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSIONS AND SLOPES TO DRAINS, ETC.
3. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL EXTERIOR CONCRETE RETAINING AND / OR SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4. SEE D17/SB501 FOR TYPICAL DETAIL AT SLAB JOINTS IN CONCRETE SLABS ON GRADE.
5. SEE D13/SB501 FOR REINFORCEMENT AT DISCONTINUOUS CONSTRUCTION / CONTROL JOINTS IN CONCRETE SLAB ON GRADE.

MICROPILE NOTES

NOTE-MICROPILE

1. ALL MICROPILES SHALL BE DESIGNED FOR THE FOLLOWING LOADS:
   D = 20k
   L = 9k
   S = 3k
   E = 2.6k (HORIZ)
   ALL LOADS ARE UNFACTORED.
2. ALL PILE AND PILE BRACKET DESIGNS SHALL BE THE RESPONSIBILITY OF THE (SUB) CONTRACTOR. DESIGN SHALL BE PERFORMED AND STAMPED BY A QUALIFIED ENGINEER CURRENTLY LICENSED TO PRACTICE IN THE STATE OF UTAH.
3. CALCULATIONS SHALL BE SUBMITTED FOR REVIEW OF PILE AND PILE BRACKET DESIGN. SUBMITTAL TO BEAR STAMP OF PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.

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CONSULTANT INFORMATION
REAVELEY ENGINEERS + ASSOCIATES
Consulting Structural Engineers

KEYED NOTES

LICENSED STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN UTAH
6/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
FOOTING & FOUNDATION PLAN

REVISIONS	DATE	BY	DESCRIPTION
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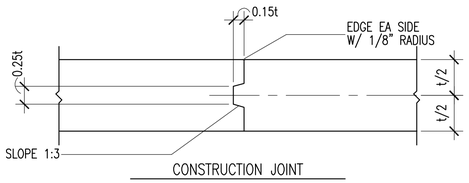
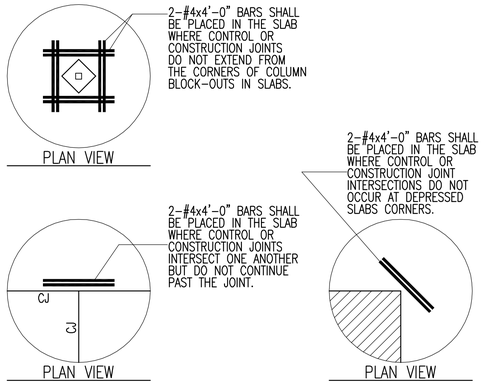
DRAWN BY TL/RE+A | CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SB101

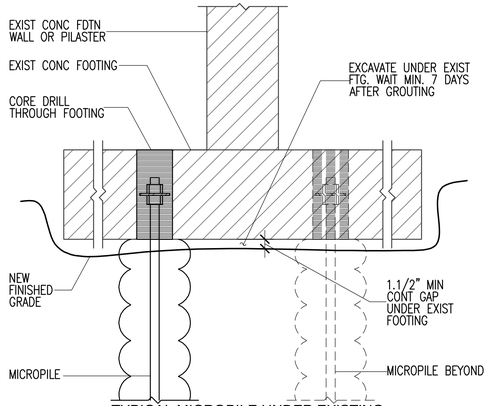
Utah National Guard - Price Armory - Seismic Upgrade



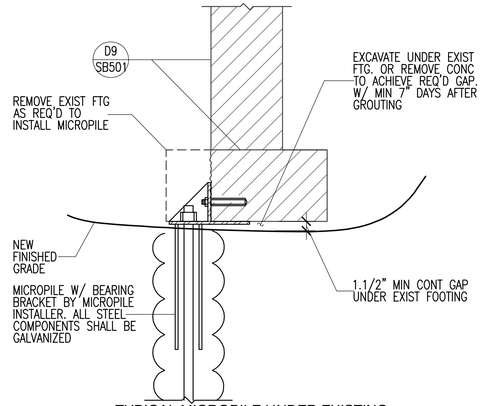
D17 TYPICAL SLAB JOINTS
SB501 NO SCALE
CF-TYP03



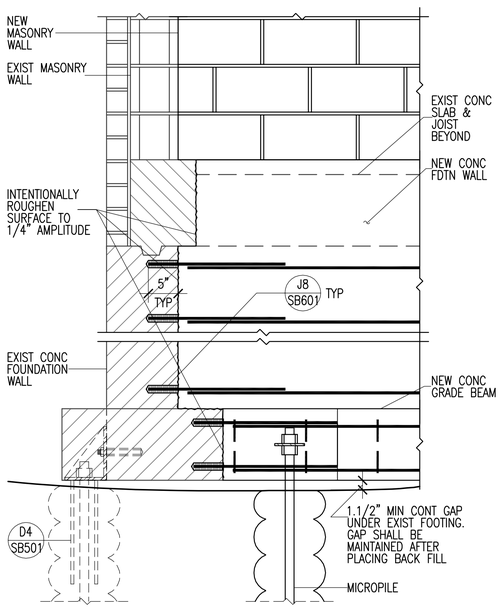
D13 TYPICAL SLAB REINFORCING AT DISCONTINUOUS SLAB JOINTS
SB501 NO SCALE
CF-TYP10



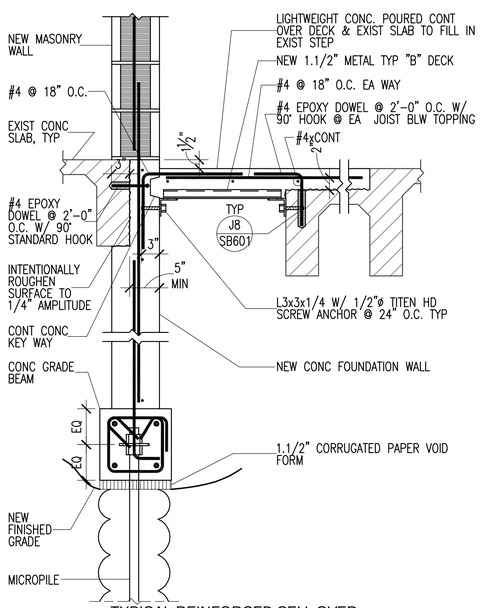
D9 TYPICAL MICROPILE UNDER EXISTING SPOT FOOTING
SB501 NO SCALE
2009-048-SB501/D9



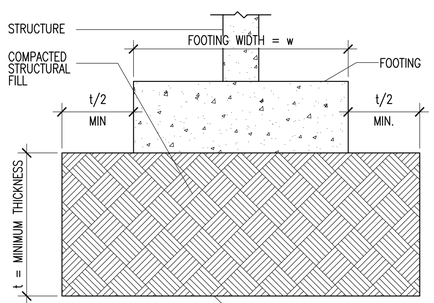
D4 TYPICAL MICROPILE UNDER EXISTING CONTINUOUS FOOTING
SB501 NO SCALE
2009-048-SB501/D4



J17 TYPICAL SLAB JOINTS
SB501 NO SCALE
2009-048-SB501/J17



J13 TYPICAL REINFORCED CELL OVER CONCRETE WALL
SB501 NO SCALE
2009-048-SB501/J13



L17 TYP COMPACTED STRUCTURAL FILL DETAIL
SB501 NO SCALE
CF-TYP09

REMOVE EXIST SLAB & CONC BRIDGING BTWN JOISTS & REPLACE W/ NEW 3.1/2" LIGHTWEIGHT CONC SLAB OVER 1.1/2" 'B' DECK (5" TOTAL THICKNESS) AFTER INSTALLING NEW CONC. GRADE BEAM & FOUNDATION WALL BLW.

3.1/2" TOPPING SLAB OVER EXIST SUSPENDED SLAB. FILL IN EXIST STEP AT SHOWER.

NOTES:

1. SLAB PORTIONS TO REMOVED ARE BASED ON FINAL BATHROOM LAYOUT & EXIST JOIST LOCATIONS. FIELD LOCATE JOISTS & COMMUNICATE TO ARCHITECT TO FINALIZE WALL LOCATIONS.

2. SEE ARCH FOR NEW FLOOR SLOPES & DRAINAGE REQUIREMENTS.

K7 1ST FLOOR PARTIAL PLAN
SB501 NO SCALE
2009-048-SB501/H7

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CONSULTANT INFORMATION

REAVELEY ENGINEERS + ASSOCIATES
Consulting Structural Engineers

KEYED NOTES

LICENSED CERTIFIED STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN UTAH
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
FOOTING & FOUNDATION DETAILS

REVISIONS	DATE	BY	DESCRIPTION
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△			
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△			

DRAWN BY TL/RE+A
CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SB501

Utah National Guard - Price Armory - Seismic Upgrade

CONCRETE GRADE BEAM SCHEDULE

CGB-1

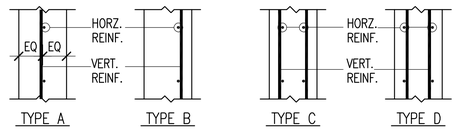
MARK	WIDTH	DEPTH	REINFORCING		REMARKS
			HORIZONTAL	STIRRUPS	
CGB-1	12"	12"	4-#6	#4 @ 12" O.C.	

CONCRETE FOUNDATION WALL SCHEDULE

CFW-1

MARK	THICK	HORIZONTAL REINFORCING	VERTICAL REINFORCING	TOP & BOTTOM HORIZONTAL BARS	NOTES
CFW-1	8"	#5 @ 15" O.C	#4 @ 16" O.C.	2-#5	TYPE A

PLACEMENT TYPE



TYPE A TYPE B TYPE C TYPE D

E.F. = EACH FACE
O.F. = OUTSIDE FACE (AGAINST SOIL)
I.F. = INSIDE FACE
3L = THREE LAYERS

MW-1

MASONRY WALL SCHEDULE

MARK	THICK	MATERIALS	REINFORCING			NOTES
			VERTICAL	HORIZONTAL	JOINTS	
MSW-1	8"	CMU	#5 @ 32" O.C.	#5 @ 48" O.C.		

NOTES:

1. PROVIDE SCHEDULED VERTICAL REINFORCING BARS AT ALL CORNERS, ENDS OF WALLS, AND SPACED AS SCHEDULED, UNLESS NOTED OTHERWISE.

2. HORIZONTAL REINFORCING BARS SHALL BE CONTINUOUS AT ALL CORNERS AND AT INTERSECTING WALLS. PROVIDE CORNER BARS WITH THE REQUIRED LAP SPLICE LENGTH.

3. TERMINATE ALL HORIZONTAL REINFORCING BARS AT ENDS OF WALLS AND EDGES OF OPENINGS WITH A STANDARD HOOK AROUND VERTICAL REINFORCING BARS.

4. SEE PLANS, DETAILS AND GENERAL STRUCTURAL NOTES FOR ADDITIONAL REINFORCING REQUIREMENTS.

5. GROUT SOLID ALL CELLS BELOW GRADE, CELLS CONTAINING EMBEDS (HSA'S, DBA'S, ANCHOR BOLTS, ETC.), AND CELLS CONTAINING REINFORCING. CONSOLIDATE GROUT AS PER THE GENERAL STRUCTURAL NOTES.

6. HORIZONTAL WALL REINFORCING SHALL BE PLACED INSIDE THE VERTICALS OF MASONRY COLUMNS.

7. HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING OCCUR IN THE SAME COURSE, THE LARGER BARS ARE TO REPLACE THE SMALLER BARS.

MASONRY REINFORCING BAR LAP SPLICE SCHEDULE

MRBLS-1500

BAR SIZE	f'm = 1500 psi							f'm = 2500 psi		
	6" CMU	8" CMU		10" CMU		12" CMU		6" ATLAS	8" ATLAS	
	CLASS	CLASS		CLASS		CLASS		CLASS	CLASS	
	A	A	B	A	B	A	B	A	A	B
#3	19"	19"	19"	19"	19"	19"	19"	15"	15"	15"
#4	25"	25"	30"	25"	28"	25"	28"	20"	20"	24"
#5	39"	31"	49"	31"	45"	31"	45"	31"	24"	40"
#6	81"	57"	**	53"	92"	53"	92"	64"	45"	87"
#7	–	79"	**	61"	**	61"	**	–	63"	**
#8	–	**	**	87"	**	75"	**	–	89"	**
#9	–	–	–	**	**	90"	**	–	–	–

NOTES:

1. CLASS A SPLICES MAY BE USED WHEN ONLY ONE BAR IS CONTINUOUS IN THE MASONRY CELL OR COURSE.
2. CLASS B SPLICES SHALL BE USED WHEN TWO BARS ARE CONTINUOUS IN THE MASONRY CELL OR COURSE.
3. ** INDICATES THAT A LAP SPLICE IS NOT ALLOWED AND MECHANICAL BAR COUPLERS ARE REQUIRED FOR THE BAR SPLICES.
4. WHERE VERTICAL BARS HAVE A REQUIRED LAP SPLICE GREATER THAN THE HEIGHT OF THE GROUT POUR, THE BAR SPLICE SHALL BE MADE WITH A MECHANICAL BAR COUPLER. WHERE THE HEIGHT OF THE GROUT POUR EXCEEDS 60 INCHES, HIGH LIFT GROUTING PROCEDURES SHALL BE FOLLOWED.
5. WHERE MECHANICAL BAR COUPLERS ARE USED, THE CONNECTOR SHALL DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR IN TENSION AND COMPRESSION.

CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE

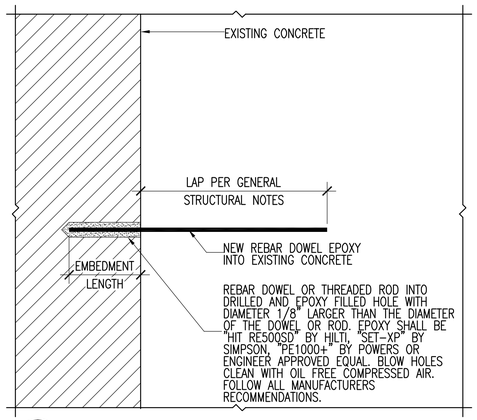
RBLS-1

BAR SIZE Fy = 60 KSI	TENSION BARS														COMP. BARS
	f'c = 3000 PSI				f'c = 4000 PSI				f'c = 5000 PSI				f'c = 6000 PSI				f'c = ALL
	REGULAR		TOP		REGULAR		TOP		REGULAR		TOP		REGULAR		TOP		
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
#3	17"	22"	22"	28"	15"	19"	19"	25"	13"	17"	17"	22"	12"	16"	16"	20"	12"
#4	22"	29"	29"	38"	19"	25"	25"	33"	17"	23"	23"	29"	16"	21"	21"	27"	15"
#5	28"	36"	36"	47"	24"	31"	31"	41"	22"	28"	28"	36"	20"	26"	26"	33"	19"
#6	33"	43"	43"	56"	29"	37"	37"	49"	26"	34"	34"	44"	24"	31"	31"	40"	23"
#7	48"	63"	63"	81"	42"	54"	54"	71"	38"	49"	49"	63"	34"	45"	45"	58"	27"
#8	55"	72"	72"	93"	48"	62"	62"	81"	43"	56"	56"	72"	39"	51"	51"	66"	30"
#9	62"	81"	81"	105"	54"	70"	70"	91"	48"	63"	63"	81"	44"	57"	57"	74"	34"
#10	70"	91"	91"	118"	61"	79"	79"	102"	54"	71"	71"	92"	50"	64"	64"	84"	39"
#11	78"	101"	101"	131"	67"	87"	87"	114"	60"	78"	78"	102"	55"	71"	71"	93"	43"

NOTES: THESE NOTES SHALL BE USED FOR ALL SPLICES, UNLESS NOTED OTHERWISE ON DRAWINGS.

1. TOP BARS ARE HORIZONTAL BARS, SPLICED SO THAT 12" OR MORE OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING BAR.
2. CLASS A SPLICES MAY BE USED ONLY WHEN 50% OR LESS OF THE BARS ARE SPLICED WITHIN THE LAP SPLICE LENGTH.
3. CLASS B SPLICES SHALL BE USED FOR ALL SPLICES IN SLABS, BEAMS, JOISTS, WALLS, MOMENT RESISTING COLUMNS, AND JAMB COLUMNS, UNLESS THEY MEET THE REQUIREMENTS OF NOTE #2 ABOVE.
4. TIES AND STIRRUPS SHALL NOT BE SPLICED.
5. A. FOR BUNDLED BARS OF THREE OR LESS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.2.
   B. FOR BUNDLED BARS OF FOUR OR MORE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.33.
   C. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP. ENTIRE BUNDLES SHALL NOT BE LAP SPLICED.
6. FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
7. FOR ALL EPOXY COATED BARS WITH COVER LESS THAN 3 BAR DIAMETERS OF CLEAR SPACING LESS THAN 6 BAR DIAMETERS THE LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.5. FOR ALL OTHER EPOXY BARS THE SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.2
8. THE BAR LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.5 WHEN EITHER OF THE FOLLOWING IS TRUE:
   A. CLEAR SPACING OF BARS BEING DEVELOPED IS LESS THAN ONE BAR DIAMETER, CLEAR COVER IS LESS THAN ONE BAR DIAMETER AND STIRRUPS OR TIES ALONG THE LENGTH OF THE SPLICE ARE LESS THAN THE CODE MINIMUM.
   B. CLEAR SPACING OF BARS BEING DEVELOPED IS LESS THAN 2 BAR DIAMETERS AND CLEAR COVER IS LESS THAN ONE BAR DIAMETER.

AS PER ACI 318-05



J8 / SB601 EP-DUEL — EPOXY ANCHORING SCHEDULE WITH DETAIL — NO SCALE

EPOXY ANCHORING SCHEDULE

REBAR DOWEL SIZE	THREADED ROD DIAMETER	EMBEDMENT LENGTH
#3		4"
#4		6"
#5		7"
#6		10"
#7		12"

NOTES:

1. EMBEDMENT LENGTHS SPECIFIED ON PLANS OR DETAILS TAKE PRECEDENCE OVER EMBEDMENT LENGTHS IN THIS SCHEDULE.
2. EMBEDMENT LENGTHS SHALL BE ADJUSTED WHEN EXISTING CONCRETE IS OF EQUAL OR LESS THICKNESS THAN SCHEDULE REQUIRES. IN THESE CASES THE EMBEDMENT LENGTH SHALL BE THE CONCRETE THICKNESS MINUS THE CLEAR COVER REQUIREMENTS, SEE GSN.
3. CONTINUOUS SPECIAL INSPECTION REQUIRED DURING INSTALLATION FOR ALL DOWELS AND THREADED RODS.

EFT ARCHITECTS
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

CONSULTANT INFORMATION
REAVELEY ENGINEERS + ASSOCIATES
Consulting Structural Engineers

KEYED NOTES

LICENSED PROFESSIONAL STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN UTAH
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
STRUCTURAL SCHEDULES

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY TL/RE+A | CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SB601

Utah National Guard - Price Armory - Seismic Upgrade

I. Design Criteria

A. Design Standards: ASCE 41-06 Seismic Rehabilitation of Existing Structures
2006 International Building Code (IBC)

B. Floor Live Loading:
1. Office: ..... 80 psf Live Load + 20 psf Partition Load
2. Assembly Area, Exit Facilities, and Corridors: ..... 100 psf Live Load
3. Mechanical Rooms: ..... 125 psf Live Load or actual weights, if larger
4. Mezzanine: ..... 100 psf Live Load

C. Roof Live Loading:
1. Roof Live Load: ..... 20 psf
2. Roof Snow Load: ..... 33 psf + Drift per IBC
   a. Ground Snow Load, P_g: ..... 43 psf
   b. Snow Exposure Factor, C_e: 0.9
   c. Importance Factor, I_s: 1.2
   d. Thermal Factor, C_t: 1.0

D. Earthquake:
1. Occupancy Category: IV
2. Seismic Design Category ..... D
3. Spectral Response Accelerations:
   S_S = 0.47 g S_{DS} = 0.37 g
   S_1 = .015 g S_{D1} = 0.17 g
4. Soil Site Class: C
   F_a = 1.2 F_v = 1.65
5. Basic Seismic-Force-Resisting System: ..... Vertically Reinforced Cores per ASCE 41-06 C7.3.1.3.5
   R = 3 C_d = 3 Ω_0 = 2.5
6. Importance Factor, I_E: 1.5
7. Design Base Shear: ..... 344 kips
8. Analysis Procedure: ..... Equivalent Lateral Force (Static)

E. Foundation:
1. Subsurface Conditions:
   Soils report and log of borings was obtained by the Owner for the Engineer's use in the design of the foundation, and is not a part of the Contract Documents. This report and log of borings is available for the Contractor's information, but is not a warranty of the subsurface conditions. The Contractor may use the report at his own risk.
2. Soils Report by Gordon Spilker Huber Geotechnical Consultants, Inc., dated November, 14, 2008.

II. Earthwork

A. Clearing: Areas receiving new site concrete shall be scraped to remove the top 4 inches of soil, including all vegetation and debris.

B. Proof rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing concrete. Remove all soft spots and replace with compacted structural fill.

C. Compacted structural fill: All fill material shall be a well-graded granular material with a maximum size less than 4 inches and with not more than 10 percent passing a No. 200 sieve. It shall be compacted to 92 percent of the maximum laboratory density as determined by ASTM D1557. All fill shall be tested (See Specifications and the Quality Assurance section of the GSN).

III. Concrete

A. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-05, "Building Code Requirements for Structural Concrete."
1. Compressive strengths of concrete at 28 days shall be as follows:
   a. Footings: ..... 3000 psi
   b. Slabs on Grade: ..... 3000 psi
   c. Walls: ..... 4000 psi
   d. Grade Beams: ..... 4000 psi
   e. Lightweight concrete over Steel Deck: ..... 3000 psi
   f. All other Site Cast Concrete: ..... 4000 psi
2. Concrete Density (Maximum Air Dry Weight):
   a. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot.
   b. Lightweight concrete shall not exceed 110 pounds per cubic foot and shall be made of lightweight coarse aggregates and a blend of lightweight and normal weight fines.
3. Reinforcement steel:
   a. ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise.
   b. All welded rebar shall be ASTM A706. Rebar shall only be welded where indicated on the drawings and shall comply with AWS D1.4.
4. Admixtures:
   a. Air-entraining admixtures, comply with ASTM C 260 (when used).
      (1) When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delaminations and blistering to occur. When this situation is present, the contractor shall pay special attention to the finishing procedures to help minimize such risks. Refer to ACI 302.1R-96 "Guide for Concrete Floor and Slab Construction" for proper finishing guidelines.
      (2) Exterior site cast concrete exposed to weather shall have air content of 6%±1%.
   b. Calcium chloride shall not be added to the concrete mix.
5. Only one grade or type of concrete shall be poured on the site at any given time.
6. Plastic coated tie wires and chairs shall be used to support reinforcing bars, tie bars and tendons.

B. Formwork shall comply with ACI Standards Publication 347 and the project specifications. The contractor shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.

C. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code Requirements for Structural Concrete".
1. Cast-in-place Concrete: Clear Cover
   a. Cast against and permanently exposed to earth: ..... 3"
   b. Formed concrete exposed to earth or weather:
      #6 thru #18 bars ..... 2"
      #5 and smaller bars ..... 1.1/2"
   c. Concrete not exposed to weather or in contact with ground:
      Slabs, Walls, Joists; #11 bars and smaller ..... 3/4"
      Beams, Columns: Primary Reinf., Ties, Stirrups, Spirals ..... 1.1/2"

D. Construction Joints and Control Joints:
1. Provide a continuous 2 X 4 keyway or a surface intentionally roughened to a full amplitude of approximately ¼" in all wall footings. Adjust the keyway as necessary to provide for proper bar placement. A continuous keyway shall not be used for concrete shear wall to footing connections, unless specifically indicated. Refer to project plans, schedules and details for the shear wall to footing connection requirements.
2. All horizontal and vertical construction joints shall have a continuous 2 X 4 keyway along the joint or joints shall be intentionally roughened to a full amplitude of approximately ¼", unless noted otherwise.
3. Provide reinforcement dowels to match the member reinforcement across the joint except for shear walls, unless noted otherwise. For dowels across construction joints and wall to footing connections of concrete shear walls, refer to specific project plans, schedules, and details.
4. Slabs on grade shall have construction or control joints spaced not to exceed 30 times the slab thickness in any direction. All discontinuous control or construction joints shall be reinforced with 2 - #4 x 48". See structural details. Construction joints shall not exceed a distance of 125'-0" o.c. in any direction.
5. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by:
   a. Saw cut a depth of 1/4 the thickness of the slab
   b. Tooled joints a depth of 1/4 the thickness of the slab
6. Control joints in visually exposed walls, unless noted otherwise: (Joints shall line up with masonry and architectural joints, see drawings.)
   a. Vertical control joints at 10'-0" on center.
   b. Reinforcing shall be continuous through control and construction joints, unless noted otherwise.
   c. Control joints in concrete foundation walls shall line up with masonry control joints.

E. Detailing: All reinforcing, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations. Reinforcing bars shall not be welded unless specifically shown on drawings.
1. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be the positive connecting type coupler. They shall be covered by a current ICC Code Evaluation Report. Use "Cadweld" splice sleeves with ferrous filler, "Lenton" taper threaded rebar splices, "Bar-Lock" lockshear bolt coupling sleeves, or approved equivalent. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
2. All embedments and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
3. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing. Unless noted otherwise, corner bar lap lengths shall conform with reinforcing bar lap splice lengths as noted above.
4. All vertical reinforcing shall be doweled to footings, or to the structure below. Dowels shall be the same size and at the same spacing as the vertical reinforcing scheduled (or detailed) for the element above. Lap splice lengths shall comply as noted above or as shown in the drawings. Dowels extending into footings shall terminate with a 90 degree standard ACI hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
5. Horizontal wall reinforcing shall terminate at ends of walls and openings into the far end of the jamb column with a 90-degree standard ACI hook, unless shown otherwise. Lap horizontal bar splices as noted above or as shown in the drawings. Horizontal wall reinforcing shall be continuous through construction and control joints. Splices in horizontal reinforcement shall be staggered, so the splice laps will not overlap. Splices in two curtains where used shall not occur in the same location, splice laps shall not overlap.
6. Wall Openings 8" to 36" wide: Place 2- #5 bars (or 1 - #7 bar in 10" walls and thinner) around all openings 8" or larger in any direction, and extend the reinforcing bars a minimum of 24" beyond the corner of the openings, unless noted otherwise. Where 24" is not available, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.
7. Provide 2-#5 X 4'-0" diagonal bars (or 1 - #7 x 4'-0" bar in 10" walls and thinner) at the corners of all openings. Diagonal bars shall be centered on the corner of the opening. All recesses in concrete walls that interrupt reinforcing steel shall be reinforced the same as an opening.
8. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
9. All reinforcement shall be bent cold, and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the engineer.

F. Minimum Reinforcing: Wall reinforcing shall be as follows, unless noted otherwise:

Wall Thickness	Horizontal Reinf.	Vertical Reinf.
8"	#5 @ 15" o.c.	#4 @ 16" o.c.
12"	#4 @ 13" o.c. Each Face	#4 @ 18" o.c. Each Face
Others	0.25% of Wall Area	0.15% of Wall Area

Place steel in the center of the wall (except in walls thicker than 10" and where shown otherwise). Walls thicker than 10" shall have two curtains of reinforcing (placed near each face of the wall), unless otherwise shown on the structural drawings. Spacing shall not exceed three times the wall thickness nor 18". In addition to the above reinforcing, 2 - #5 (or 1 - #7 in 10" walls and thinner) x continuous horizontal bars shall be placed at the bottom of the wall (near the footing) and at each floor level, at the roof level and at the top of wall.

G. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.

H. Unless otherwise noted, all slabs on grade shall be 4" thick.

IV. Masonry

A. Materials, unless noted otherwise:
1. Concrete Masonry Units: ASTM C 90, Lightweight, minimum unit strength of 1900 psi average or better. (f'm = 1500 psi)
2. Mortar: Use Type "S" according to IBC Section 2103.8, and tested according to ASTM C270. Admixtures shall not be added to the mortar mix. (1800 psi minimum compressive strength).
3. Grout: Conform to IBC Table 2103.12 or ASTM C476. Proportioned according to IBC Section 2103.12 and tested according to ASTM C1019. Grout shall attain a minimum compressive strength equal to or greater than f'm but shall not be less than 2000 psi at 28 days.
4. Reinforcing: Grade 60 reinforcing steel shall comply with ASTM A615. Wire joint reinforcing shall comply with ASTM A951.
5. Deformed Bar Anchors (DBA): All DBAs shall comply with ASTM A496.
6. Headed Stud Anchors (HSA): Manufacture all HSAs in conformance with ASTM A108 with dimensions complying with AISC specifications.

B. Construction Requirements:
1. Mortar Joints: Joints shall be "concave", "V-joint" or "weathered raked" for structural members unless noted otherwise on architectural drawings.
2. Masonry walls, shall be constructed with running bond, unless noted otherwise.
3. Grouting Requirements: Comply with IBC Section 2104 and ACI 530.1/ASCE 6/TMS 602. Grout shall be mechanically consolidated and mechanically reconsolidated according to ACI 530.1/ASCE 6/TMS 602 Section 3.5 E.
4. Reinforcing Bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for DBAs or HSAs.

C. Detailing Requirements:
1. Standards: Reinforcing detailing shall comply with American Concrete Institute (ACI) Standard 315, "Details and Detailing of Concrete Reinforcement."
2. Reinforcement Protection (cover):
   a. Reinforcement shall have a minimum coverage of one bar diameter over all the bars, but not less than 3/4".
3. Vertical steel reinforcement shall be placed and secured against displacement prior to grouting by wire positioners or other suitable devices; at intervals not exceeding 112 bar diameters, at the grout lift heights, or at bar splice locations, whichever is less. Vertical reinforcing shall be located at the center of the wall, unless noted otherwise.
4. Lap Splice Lengths: Lap all masonry reinforcing bars per the "Masonry Reinforcing Bar Lap Splice Schedule." Joint reinforcement shall lap a minimum of 6".
5. Dowels: All vertical reinforcing shall be doweled to the foundation wall, footing (structure below) and to the structure above with the same size dowel, spacing (and in the same core) as the vertical wall reinforcing unless noted otherwise.
6. Wall Openings 24" wide and wider: Provide reinforced masonry lintels per Masonry Lintel Schedule over the top of, and 2 - #5 bars, in grouted spaces, on all sides and adjacent to every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 48 bar diameters beyond the corners of the opening. Vertical bars shall extend from floor level below to the floor , or roof, level above. Where a 48 bar diameter extension is not possible, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.
7. Horizontal wall reinforcing shall be continuous through joining concrete walls, masonry walls, columns, and pilasters. Provide a key between the wall and the column or pilaster. Horizontal wall reinforcing shall be placed inside the column vertical reinforcing.
8. Anchor bolts and headed stud anchors shall be set in a grouted cell. Anchor bolts and headed stud anchors shall have 1" grout surrounding the shank at its penetration. Grout shall be flush with the face or top of the masonry.
9. The exposed face of all embed plates shall be set flush with the face of masonry wall or column.

D. Minimum Reinforcing:
All masonry walls shall be reinforced as follows, unless shown otherwise on the drawings. Reinforcing shall be placed in grouted cells.

Wall Thickness	Horizontal Reinf.	Vertical Reinf.
8"	#5 @ 48" o.c.	#5 @ 32" o.c.

V. Structural Steel

A. Material:
1. All Other Shapes and Plates: ASTM A36 (Fy = 36 ksi), except as noted otherwise.
2. Rectangular and Square Hollow Structural Sections (HSS): ASTM A500, Grade B (Fy = 46 ksi).
3. Deformed Bar Anchors (DBA): ASTM A496.
4. Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications.

B. Fabrication and construction shall comply with the following Codes and Standards:
1. American Institute of Steel Construction (AISC) 360-05, "Specification for Structural Steel Buildings," dated March 9, 2005.
2. American Welding Society (AWS) D1.1-04, "Structural Welding Code – Steel" (specific items do not apply when they conflict with the AISC requirements).
3. American Iron and Steel Institute (AISI) 2001, "North American Specification for the Design of Cold-Formed Steel Structural Members."

C. Structural shapes and plates shall be fabricated from newly rolled (milled) one-piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the structural engineer.

D. Welding:
1. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the type of work to be performed. Certification shall be considered current if dated within the past 12 months. Welders will be considered certified if they have been certified under AWS and their work records are current within every six-month period thereafter as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the architect prior to beginning work.
2. Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof decks.
3. Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.
4. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors (HSAs).
5. It is recommended the steel erection contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any of the above welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
6. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.8 and Annex IX.
7. Diagonal Brace welding: lengths shown for fillet welds for brace-to-gusset, gusset-to-baseplate, and column-to-gusset connections are minimums, intended for establishing gusset plate dimensions. Weld entire contact length at these joints, typical.

E. Beam Web Stiffener Plates:
Provide full-height web stiffener plates to each side of all beams above all bearing points. Stiffener plates shall be the thickness noted below unless noted otherwise and shall be welded on both sides of the stiffener plate with fillet welds (noted below) all around.

Beam Web stiffener thickness	For beams with flange widths between	Weld Size
1/4 inch thick	Greater than 0" and less than 8 1/4"	3/16"

STRUCTURAL DRAWING INDEX

Sheet No.	Sheet Title
SE001	GENERAL STRUCTURAL NOTES
SE002	GENERAL STRUCTURAL NOTES
SE003	SPECIAL INSPECTION FORM
SB101	FOOTING & FOUNDATION PLAN
SB501	TYPICAL FOOTING & FOUNDATION DETAILS
SB601	STRUCTURAL SCHEDULES
SF101	1ST FLOOR WALL PLAN
SF102	LOWER ROOF FRAMING PLAN
SF103	CLERESTORY WALL PLAN
SF104	HIGH ROOF FRAMING PLAN
SF501	LOWER ROOF FRAMING DETAILS
SF502	LOWER ROOF FRAMING DETAILS
SF505	WALL DETAILS
SF510	HIGH ROOF FRAMING DETAILS

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KEYED NOTES

LICENSED PROFESSIONAL STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN UTAH
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
GENERAL STRUCTURAL NOTES

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY TL/RE+A
CHECKED BY APB/RE+A
PROJECT NO. 08297840
DRAWING NO. SE001
DATE JUNE 17, 2009

Utah National Guard - Price Armory - Seismic Upgrade

Beam Web stiffener thickness	For beams with flange widths between	Weld Size
1/4 inch thick	Greater than 0" and less than 8 1/4"	3/16"
3/8 inch thick	Greater than 8 1/4" and less than 12 1/4"	1/4"
1/2 inch thick	Greater than 12 1/4" and less than 16 1/2"	5/16"
5/8 inch thick	Greater than 16 1/2" and less than 20 3/4"	3/8"

F. Steel Floor Deck:
1. Steel floor deck shall comply with the latest requirements of the Steel Deck Institute (SDI). Submit ICC Code Evaluation Report with load and lateral shear capacities with shop drawings.
2. Steel floor deck shall be 1-1/2" deep X 22 gauge minimum phosphatized/painted composite type "B" deck with interlocking side seams with the following properties:
   Minimum S (in^3/ft) = 0.175
   Minimum I (in^4/ft) = 0.180
3. A lightweight concrete (f'c = 3,000 psi @ 28 days unless noted otherwise) slab shall be poured over the steel deck. Reinforce per details.
4. Weld deck to supporting framing members with 3/4" diameter puddle welds at the following spacing (Closer spacings may be used to develop minimum shear requirements.):
   a. 12" o.c. to supports perpendicular to deck corrugations (4 welds per 36" wide sheet).
   b. All welded surfaces shall be dry before welding deck or studs to supports.
5. Deck shall have a minimum bearing length of 2".

G. Cold-Formed Steel
1. Light Gauge Steel Framing:
   a. Where steel framing size designators are used in the drawings, they follow the convention established by the Steel Stud Manufacturers' Association (SSMA) and the North American Steel Framing Alliance (NASFA). Framing members provided shall comply with the designations according to this convention.
   b. All load bearing stud (and/or) joist framing members along with all runner, bridging, and end track shall be of the designation shown on the plans. All studs with base metal thickness of 54 mil and 68 mil, and joists with base metal thickness of 54 mil, 68 mil and 97 mil, shall be formed from steel meeting the requirements of ASTM A570 except that the steel shall have a 50,000 psi yield stress. All track and end closures with base metal thickness of 54 mil and 68 mil, bridging with base metal thickness of 54 mil, and studs and track with base metal thickness of 43 mil and 33 mil, shall be formed from steel with a minimum yield of 33,000 psi. All components shall be galvanized.
   c. Follow all manufacturers' recommendations for the use of these products.
   d. Unless noted otherwise, all welded connections shall be done using 1/8" AWS type 6013 or 7014 rod with a welding heat of 60-110 amperes depending on the gauge of material and the fit of the parts. Wire tying of framing components shall not be permitted.
   e. All interior non-bearing steel stud walls that extend above the ceiling but do not attach to the floor or roof diaphragm (above) shall have diagonal braces at 45 degrees (+/-). The KL/r ratio of the brace shall not exceed 200 and shall not be spaced further apart than 10'-0". Connect diagonal braces to the top of the steel stud walls and to the underside of the top flange of the steel beams, open web joists or girders, etc. with 1/8" fillet welds all around. Diagonal braces may be constructed from cold-formed light gauge steel studs but must conform to the kl/r ratio of less than 200 requirement. When diagonal brace lengths exceed 10'-0" (+/-), cold-formed box sections made from two 600S137-54 steel studs will likely be required.

VI. Wood

A. Materials:
1. Wood Structural Panel Sheathing: All panels shall be rated by the American Plywood Association (APA). Panels shall be interior grade with exterior glue with the following panel span rating, unless noted otherwise,
   24/0 Roof
2. Nails: Galvanized Box with the following properties:

Nail Size	Shank Diameter	Min. Penetration into Support Member
6d	0.099"	1.25"
8d	0.113"	1.50"
10d	0.128"	1.63"
12d	0.128"	1.63"
16d	0.135"	1.75"

B. Minimum Nailing Requirements (See drawings for areas with greater requirements):
1. Roof: As indicated on the drawings.
2. General Framing and Carpentry: Connect all items as per IBC Table 2304.9.1, "Fastening Schedule", unless noted otherwise.

VII. Special Instructions

A. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical details.

B. The architectural drawings are the prime contract drawings. Consultant drawings by other disciplines are supplementary to the architectural drawings. All omissions or conflicts, including dimensions, between the various elements of the consultants' drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the Architect without additional cost to the owner. Any work done by the contractor after discovery of such discrepancy shall be done at the contractor's risk.

C. The structural drawings shall be used in conjunction with the architectural drawings. Primary structural elements and overall structural layout are indicated within the structural plans and details. Some secondary elements, architectural layouts, alcoves, elevations, slopes, depressions, curbs, mechanical equipment and electrical equipment, are not indicated within the structural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings.

D. Shoring and Bracing Requirements:
1. Floor and Roof Structures -- The General Contractor is responsible for the method and sequence of all structural erection. He shall provide temporary shoring and bracing as his method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.
2. Foundation walls must be braced until the complete floor or roof systems is completed. Do not backfill until floor or roof systems are in place.
3. Walls above grade shall be braced until the structural system is complete. Walls shall not be considered to be self supporting.

E. All expansion joints (E.J.) shown in the structural drawings shall be considered seismic separation joints, unless noted otherwise.

F. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the contractor of the responsibility of completing the project according to the contract documents. The general contractor shall review and mark all shop drawings prior to submitting them to the Architect for his review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.

G. Project Coordination: It shall be the responsibility of the general contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the general contractor and shall be coordinated with the Architect/Engineers. The order of construction is the responsibility of the general contractor. It is the contractor's obligation to provide all items necessary for his chosen procedure.

H. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, contractor shall notify architect/engineer prior to fabrication or construction within that area.

I. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers and Associates, Inc., All Rights reserved. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Reaveley Engineers & Associates, Inc.'s reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers and Associates, Inc. for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the contractor or his subcontractors for preparation of shop drawings or other submittals.

VIII. Quality Assurance

A. Quality Assurance Agency Requirements:
1. The owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. All quality assurance personnel assigned to the project shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.
2. Prior to construction, the QAA shall submit the following information to the Architect and Engineer of Record for approval:
   a. A copy of the appropriate certification and training records for each individual performing inspections or testing.
   b. A list of the testing equipment designated for the project and recent calibration records for the equipment.
   c. Sample inspection and testing reports and the distribution list for the reports.
3. The special inspector shall inspect the work per Chapter 17 of the IBC and the Special Inspection and Testing table in these drawings for conformance with the contract documents. The special inspector shall send reports to the owner, building official, architect, engineer, and contractor. All discrepancies shall be brought to the immediate attention of the contractor for correction. The QAA shall submit a final signed report stating that the special inspection work was, to the best of their knowledge, in conformance with the plans, specifications and applicable workmanship provisions of the IBC.

B. Seismic Force Resisting Systems
1. Elements that are a part of the Main Seismic Force Resisting System for the structure may require increased quality assurance inspection and testing. The Main Seismic Force Resisting system for the structure includes the following elements:
   a. Masonry walls.
   b. Concrete shear walls.
   c. Steel braces, columns and beams that are part of a steel braced frame.
   d. Footings and foundation systems that directly support walls, columns and braces referenced above.
   e. Floor decking and/or slab systems.
   f. All elements labeled as "drag struts" or "chords."
   g. Connections between the elements referenced above.

C. Special Inspection: Special Inspection shall be provided for the following elements per IBC sections 1704 and 1707:
1. Concrete and elements embedded in concrete shall be special inspected prior to and during placement of concrete. Special inspection of concrete shall include the following:
   a. Reinforcing steel size and placement.
   b. Surface preparation at cold joints including placement of keyways.
   c. Bolt and embed size, configuration and placement.
   d. Concrete shall receive continuous special inspection during placement, and periodic inspection after placement to ensure proper curing and weather protection procedures.
   e. Shotcrete placement shall receive continuous special inspection.
2. Structural steel fabrication and erection shall be special inspected, including the following:
   a. Fillet welds smaller than or equal to 5/16" per AWS D1.1.
   b. Welding of reinforcing steel shall receive continuous special inspection during weld placement per AWS D1.1.
   c. Welding of Headed Stud Anchors (HSA) and Deformed Bar Anchors (DBA) shall be inspected to comply with AWS D1.1 Section 7.6 through 7.8 and Annex IX.
   d. Welding or fastening of floor deck per AWS D1.3. or per the code evaluation report for the fastening method.
3. Structural Masonry: Special inspection shall be provided, as follows:
   a. As masonry construction begins, and periodically during construction, verify the following are in compliance:
      (1) Proportions of site-mixed mortar and grout.
      (2) Placement of masonry units and construction of mortar joints.
      (3) Locations of reinforcement, connectors and embeds.
      (4) Protection of masonry during cold or hot weather.
   b. Prior to grouting, verify the following are in compliance:
      (1) Grout space.
      (2) Size and location of structural elements.
      (3) Grade, size and placement of reinforcement, connectors and embeds.
      (4) Construction of all mortar joints.
   c. Continuous inspection is required during placement of grout and during preparation of grout specimens, mortar specimens, and/or prisms for testing.
4. Post-installed anchors, including but not limited to expansion anchors, adhesive anchors and rebar dowels, and low velocity fasteners, shall receive special inspection per the code evaluation reports for the anchors.
   a. Continuous special inspection is required during the installation of all adhesive anchors and rebar dowels. Special inspector shall verify the following:
      (1) Anchor size and steel grade.
      (2) Hole diameter, location, and type of drill bit.
      (3) Cleanliness of hole and anchor.
      (4) Adhesive application.
      (5) Anchor embedment.
5. Wood: Nailing of roof diaphragms, seismic straps and other elements of the main seismic force resisting system shall receive special inspection per IBC 1707.3.
6. Micropiles shall receive continuous special inspection during installation and testing.

D. Structural Testing: The following materials shall be tested per IBC sections 1704 and 1708. The owner reserves the right to test any and all materials using any appropriate non-destructive procedure. Any items found to be deficient shall be corrected and retested at no additional cost to the owner.
1. Earthwork: All compacted structural fill shall be tested to verify soil gradation, lift thickness, and compaction requirements. See the specifications and earthwork section of the GSN for testing frequency and acceptability criteria.
2. Concrete Strength Verification and Testing. All concrete shall be tested to verify strength, slump, unit weight, air content, and temperature. See the specifications for testing criteria, testing frequency and acceptability criteria.
   a. The contractor has the option of using the "Masonry Prism Test Method" per IBC Section 2105.2.2.2, in lieu of the "Unit Strength Method."
3. Welded connections shall be tested for compliance according to IBC Table 1704.3, AWS D1.1 and the contract specifications and plans. As a minimum, the testing shall include the following:
   a. Any material discontinuities shall be accepted or rejected on the basis of the defect rating in accordance with the testing in AWS D1.1 Chapter 6, excluding Sections 6.1 through and including 6.6. All deficient welds shall be corrected and retested at no additional cost to the owner.
4. Post-installed anchors, including but not limited to expansion anchors, adhesive anchors, and low velocity fasteners, shall be tested per the code evaluation reports for the anchors.

E. Structural Observations by the Engineer of Record.
1. The Engineer of Record may perform structural observations at critical phases of the project. Copies of the engineer's report will be distributed to the architect, contractor, owner, the building official, and the QAA.
2. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.
3. Notification of Engineer: The contractor shall notify the engineer twenty-four hours prior to:
   a. Placing concrete in any footing.
   b. Closing any wall forms.
   c. Placing concrete in any column, beam or suspended slab.
   d. Grouting any masonry.
   e. Completing the nailing of any plywood wall or deck.

F. Contractor Responsibility: The contractor shall prepare and submit a written statement of responsibility to the building official and the owner prior to commencement of work on the project. As a minimum the statement shall contain the following information:
1. Acknowledgement of the quality assurance requirements for the structure.
2. Acknowledgement that control will be exercised to obtain conformance to the Contract Documents.
3. Quality control procedures within the contractor's organization, methods and frequency of reporting, and distribution of the reports.
4. Identification and qualifications of the person(s) responsible for quality control and their position(s) in the organization.

ABBREVIATIONS

AB	ANCHOR BOLT (S)	F.D	FLOOR DRAIN	NIC	NOT IN CONTRACT
ABV	ABOVE	FDTN	FOUNDATION	NTS	NOT TO SCALE
@	AT	F.F.	FINISH FLOOR		
ALT	ALTERNATE	FIN	FINISH	OPNG	OPENING
APPROX	APPROXIMATE	FL	FLOOR	OPP	OPPOSITE
ARCH	ARCHITECT(URAL)	FT	FOOT	O.C.	ON CENTER
		FTG	FOOTING	O.F.	OUTSIDE FACE
BM	BEAM	FV	FIELD VERIFY	OWSJ	OPEN WEB STEEL JOIST
BLW	BELOW				
		GA	GAUGE	PCF	POUNDS/CUBIC FOOT
BRG	BEARING	GALV	GALVANIZED	PL	PLATE
BTWN	BETWEEN	GLB	GLU-LAMINATED BEAM	PLF	POUNDS/LINEAL FOOT
BLDG	BUILDING	GR	GRADE	PNL	PANEL
BOT	BOTTOM	GSN	GENERAL STRUCTURAL NOTES	PSF	POUNDS/SQ FOOT
				PSI	POUNDS/SQ INCH
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT			PT	POINT
CJP	COMPLETE JOINT PENETRATION	HB	HORIZONTAL BRIDGING	REINF	REINFORCING
CMU	CONC MASONRY UNIT	HT	HEIGHT	R.D.	ROOF DRAIN
COL	COLUMN	HORIZ	HORIZONTAL	REQ'D	REQUIRED
CONC	CONCRETE	HSA	HEADED STUD ANCHORS		
CONST	CONSTRUCTION			SHT	SHEET
CONT	CONTINUOUS	IBC	INTERNATIONAL BUILDING CODE	SI	SPECIAL INSPECTION
CONTR	CONTRACTOR	ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	SOG	SLAB ON GRADE
CTR	CENTER	ICC	INTERNATIONAL CODE COUNCIL	STD	STANDARD
				STIFF	STIFFENER
DB	DECK BEARING	IN.	INCH	STL	STEEL
DBA	DEFORMED BAR ANCHORS	INSUL	INSULATION	SQ	SQUARE
		INT	INTERIOR	SIM	SIMILAR
DBL	DOUBLE	I.F.	INSIDE FACE	STR	STRUCTURAL
DET	DETAIL			STAG	STAGGERED
DIA	DIAMETER	JT	JOINT	T&B	TOP AND BOTTOM
DIM	DIMENSION	JST	JOIST	TEMP	TEMPERATURE
DN	DOWN	KLF	KIPS PER LINEAL FOOT	THDS	THREADS
DWG	DRAWING	KSF	KIPS PER SQUARE FOOT	T.O.	TOP OF
DWL	DOWEL	KSI	KIPS PER SQUARE INCH	TOC	TOP OF CONCRETE
		K	KIPS - 1,000 POUNDS	TOEF	TOP OF EXISTING FOOTING
EA	EACH			TOF	TOP OF FOOTING
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)	LF	LINEAL FOOT	TOS	TOP OF SLAB
		LBS	POUNDS	TOW	TOP OF WALL
ELEV	ELEVATION	LLH	LONG LEG HORIZONTAL	TYP	TYPICAL
ELEC	ELECTRICAL	LLV	LONG LEG VERTICAL		
EQUIP	EQUIPMENT			UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL	MAS	MASONRY		
EXIST	EXISTING	MAX	MAXIMUM	VERT	VERTICAL
EXP	EXPANSION / EXPOSED	MCJ	MASONRY C.J.	W/	WITH
EXT	EXTERIOR	MECH	MECHANICAL	WWF	WELDED WIRE FABRIC
E.F.	EACH FACE	MFR	MANUFACTURER		
E.W.	EACH WAY	MIN	MINIMUM		
		MISC	MISCELLANEOUS		

PLAN MARKS

CFW-#	CONC FDTN. WALL	CGB-#	CONC GRADE BEAM	MW-#	MASONRY WALL

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SHEET TITLE
GENERAL STRUCTURAL NOTES

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY TL/RE+A | CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SE002

Utah National Guard - Price Armory - Seismic Upgrade

SPECIAL INSPECTION AND TESTING (IBC 1704)

FABRICATORS (IBC1704.2)

☒ Approved Fabricator	Fabricators must be on the DFCM approved fabricators list
☐ Unapproved Fabricator	

In-plant inspections (For Non-AISC-Certified Fabricators only)

☐ Precast Concrete ☒ Steel Construction ☒ Welding ☒ Details

STEEL (IBC1704.3)

Item			Reference/Comments
High Strength Bolting(1704.3.3)	☐ Continuous	☐ Periodic	Not Applicable
WELDING (1704.3.1)			Not Applicable
Details (1704.3.2)			Not Applicable
Complete & partial penetration groove welds	☐ Continuous	☐ Periodic	Not Applicable
Multipass fillet welds	☐ Continuous	☐ Periodic	Not Applicable
Single-pass fillet welds > 5/16"	☐ Continuous	☐ Periodic	Not Applicable
Single-pass fillet welds ≤ 5/16"	☐ Continuous	☒ Periodic	AISC 360 Ch. M, AWS D1.1
Floor & roof deck welds	☐ Continuous	☒ Periodic	AWS D1.3
REINFORCEMENT STEEL	☐ Continuous		Not Applicable
Verification of weldability	☐ Continuous	☒ Periodic	AWS D1.4, ACI 318 3.5.2
Shear wall and shear reinforcement	☐ Continuous	☐ Periodic	Not Applicable
Other reinforcement	☐ Continuous	☒ Periodic	AWS D1.4, ACI 318 3.5.2
Steel frame joint details	☐ Continuous	☐ Periodic	Not Applicable

CONCRETE CONSTRUCTION (IBC1704.4)

Item			Reference/Comments
Materials (1704.4.1)	☐ Continuous	☐ Periodic	Obtain mix design histories per ACI 318 Sec. 5.3.1
Steel placement	☐ Continuous	☒ Periodic	100% visual inspection prior to concrete placement per ACI 318 Chapter 7 and ACI 301 Section 3
Steel welding	☐ Continuous	☒ Periodic	AWS D1.4, ACI 318 3.5.2
Bolts prior & during placement	☐ Continuous	☐ Periodic	Not Applicable
Use of required design mix	☐ Continuous	☒ Periodic	Verify the use correct mix design at delivery of each batch
Concrete sampling for strength test, slump, air content, and temperature of concrete	☒ Continuous	☐ Periodic	Extent and frequency of testing per ACI 318 6.5.2 and ACI 301 1.6.4 and project specification. In case of conflict, stricter requirements shall apply.
Concrete & shotcrete placement	☒ Continuous	☐ Periodic	Continuous observation to ensure proper concrete placement per ACI 318 5.9-5.10 and ACI 301 Sec 5.
Curing temperature and techniques	☐ Continuous	☒ Periodic	Monitor ambient temperature of concrete surface per ACI 318 5.11-5.13 and "Guide to Curing Concrete" by ACI committee 308
Pre-stressed concrete	☐ Continuous	☐ Periodic	Not Applicable
Pre-cast concrete	☐ Continuous	☐ Periodic	Not Applicable
Posttentsioned concrete	☐ Continuous	☐ Periodic	Not Applicable
Form work	☐ Continuous	☒ Periodic	Verify that form work will result in shapes, lines, and dimensions of final structure conforming to the contract documents

MASONRY CONSTRUCTION (IBC1704.5)

Item			Reference/Comments
As masonry construction begins:			
Site prepared mortar	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 2.6A, Table 5
Construction of mortar joints	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 3.3B, Table 5
Location of reinforcement, connectors, pre-stressing tendons and anchorages	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 3.4, 3.6A, Table 5
Pre-stressing technique	☐ Continuous	☐ Periodic	Not Applicable
Grade and size of pre-stressing tendons and anchorages	☐ Continuous	☐ Periodic	Not Applicable
Inspection program verify:			
Size and location of structural elements	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 3.3G
Type, size and location of anchors	☐ Continuous	☒ Periodic	ACI 530-05 Sec. 1.2.2(e), 3.1.6, ACI 530.1-05 Art. 1.6
Size, grade and type of reinforcement	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 2.4, 3.4, Table 5
Welding of reinforcement	☐ Continuous	☐ Periodic	Not Applicable
Cold and hot weather protection	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 1.8C-D
Application and measurement of pre-stressing force	☐ Continuous	☐ Periodic	Not Applicable
Prior to grouting verify			
Clean grout space	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 3.2D, Table 5
Placement of reinforcement	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 3.4, Table 5
Grout mix	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 2.6B, Table 5
Mortar joints	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 3.3B, Table 5
Grout placement	☒ Continuous	☐ Periodic	ACI 530.1-05 Articles 1.6, 3.5, Table 5
Grout and mortar specimens and prisms	☒ Continuous	☐ Periodic	ACI 530.1-05 Articles 1.6, 1.4, Table 5
Construction and submittal compliance verification	☐ Continuous	☒ Periodic	ACI 530.1-05 Articles 1.6, 1.5, Table 5
Empirical masonry – Cat. I-III (1708.1.1)	☐ Continuous	☐ Periodic	Not Applicable
Empirical masonry – Cat. IV (1708.1.1)	☐ Continuous	☐ Periodic	Not Applicable
Engineered masonry – Cat. I-III 1708.1.1	☐ Continuous	☐ Periodic	Not Applicable
Engineered masonry – Cat. IV (1708.1.1)	☐ Continuous	☐ Periodic	Provide Level 2 Quality Assurance per IBC 2006 Table 1708.1.4
Engineering & pre-stressing steel (1708.3)	☐ Continuous	☐ Periodic	Not Applicable
Structural steel (1708.4)	☐ Continuous	☐ Periodic	Provide testing per AWS D1.1
Qualification of mechanical & electrical equipment (1708.5)	☐ Continuous	☐ Periodic	Not Applicable
Seismically isolated structures (1708.6)	☐ Continuous	☐ Periodic	Not Applicable
Testing for seismic resistance is	☐ Continuous	☐ Periodic	Provide testing per AWS D1.1

WOOD CONSTRUCTION (IBC1704.6)

Item			Reference/Comments
Prefabricated elements & assembly	☐ Continuous	☐ Periodic	Not Applicable

SOILS CONSTRUCTION (IBC1704.7)

Item			Reference/Comments
Site preparation	☐ Continuous	☒ Periodic	Verify site preparation prior to placement and compaction of backfill per IBC Table 1704.7
Structural fill material	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report
Structural fill lift thickness	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report
Structural fill soil densities	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report
Backfill soils materials	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report
Backfill soil densities	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report
Fill material under side walks and parking	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report
Fill soil densities under side walks and parking	☒ Continuous	☐ Periodic	IBC 1803.5, project specification, and approved geotechnical report

PILE FOUNDATIONS (IBC1704.8)

Item			Reference/Comments
Observe driving operation and reporting	☐ Continuous	☐ Periodic	Not Applicable
Verify placement & installation data	☐ Continuous	☐ Periodic	Not Applicable

PIER FOUNDATIONS (IBC1704.9)

Item			Reference/Comments
Observe drilling operation and reporting	☒ Continuous	☐ Periodic	Applicable for all micropiles
Verify placement & installation data	☒ Continuous	☐ Periodic	Applicable for all micropiles

SPRAYED FIRE-RESISTANT MATERIALS (IBC1704.10)

Item			Reference/Comments
Structural member surface conditions	☐ Continuous	☐ Periodic	Not Applicable
Material application	☐ Continuous	☐ Periodic	Not Applicable
Material thickness	☐ Continuous	☐ Periodic	Not Applicable
Material density	☐ Continuous	☐ Periodic	Not Applicable
Bonding strength	☐ Continuous	☐ Periodic	Not Applicable

MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS (IBC1704.11)

Item			Reference/Comments
Material and instillation	☐ Continuous	☐ Periodic	Not Applicable

EXTERIOR INSTULATION AND FINISH SYSTEMS (EIFS) (IBC1704.12)

Item			Reference/Comments
Material and instillation	☐ Continuous	☐ Periodic	Not Applicable

ALTERNITIVE CONSTRUCTION METHODS OR MATERIALS (IBC1704.13)

Item			Reference/Comments
Material and instillation	☐ Continuous	☐ Periodic	Not Applicable

EPOXY (IBC1704.13)

Item			Reference/Comments
Material and instillation	☒ Continuous	☐ Periodic	Applicable for all epoxy anchors

SMOKE CONTROL (IBC1704.14)

Item			Reference/Comments
Material	☐ Continuous	☐ Periodic	Not Applicable
Instillation	☐ Continuous	☐ Periodic	Not Applicable

Special inspection for seismic resistance (IBC1707)

Item			Reference/Comments
Structural Steel (1707.2)	☐ Continuous	☒ Periodic	AISC 360 Ch. M, AWS D1.1.
Structural Wood (1707.3)	☐ Continuous	☒ Periodic	Not Applicable
Cold–formed steel framing (1707.4)	☐ Continuous	☒ Periodic	Not Applicable
Pier foundations (1707.5)	☒ Continuous	☐ Periodic	Not Applicable
Storage racks & access floors (1707.6)	☐ Continuous	☐ Periodic	Not Applicable
Architectural components (1707.7)	☐ Continuous	☐ Periodic	Special Inspection not required per IBC Section 1707.7 Exception #1
Mechanical & electrical items (1707.8)	☐ Continuous	☐ Periodic	Not applicable per State Building Official
Designated systems verification (1707.9)	☐ Continuous	☐ Periodic	Not Applicable
Seismic isolation systems (1707.10)	☐ Continuous	☐ Periodic	Not Applicable

Inspection of seismic resistance are not required per IBC 1705.3 ☐

OTHER

Item			Reference/Comments
	☐ Continuous	☐ Periodic	Not Applicable
	☐ Continuous	☐ Periodic	Not Applicable

Special Inspectors Shall:

- Be approved by the Building Official prior to performing any duties;
- Provide proof of licensure as a special inspector by the State of Utah for each type of inspection;
- Inspection reports are to meet the requirements of IBC 1704.1.2 and DFCM standards;
- Inspection reports are to be submitted to the code consultant, architect, DFCM project manager, and the State of Utah Building Official within 48 hrs. of inspections;
- A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the drawings, specifications and applicable codes. IBC 1704.1.2

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CONSULTANT INFORMATION

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Consulting Structural Engineers

KEYED NOTES

LICENSED CERTIFIED STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN STATE OF UTAH
9/17/2009

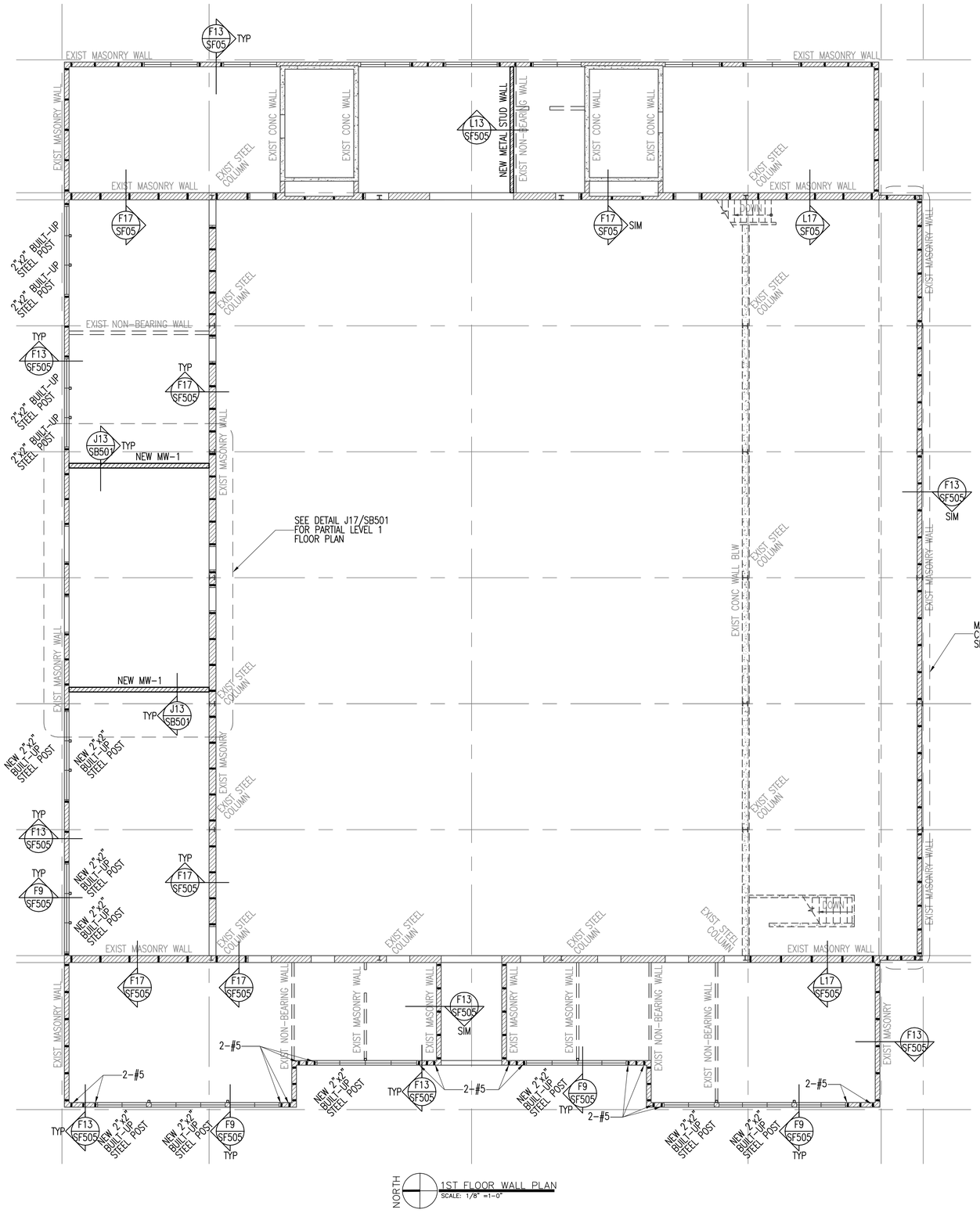
Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
SPECIAL INSPECTION FORM

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY TL/RE+A | CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SE003

Utah National Guard - Price Armory - Seismic Upgrade



EXISTING ITEMS PLAN LEGEND

LEG-EXIST

- EXISTING CONCRETE SHEAR WALL, FOUNDATION WALL OR RETAINING WALL
- EXISTING OPENING THROUGH CONCRETE WALL
- EXISTING MASONRY WALL
- EXISTING OPENING THROUGH MASONRY WALL
- EXISTING STEEL COLUMN – WIDE FLANGE
- EXISTING STEEL BRACED FRAME

FLOOR FRAMING PLAN LEGEND

LEG-FLOOR

- MASONRY WALL
- STEEL COLUMN – TUBE
- VERT REINF CELL
- STEEL STUD WALL – STRUCTURAL

WALL PLAN NOTES

NOTE-WALL

1. ALL REINFORCED CELLS SHALL CONTAIN 1-#5 BAR UNO. BARS SHALL BE PLACED IN CENTER OF CELLS.
2. ALL EPOXY DOWELS SHALL BE #5 BARS W/ 7" EMBEDMENT UNO.
3. ALL EPOXY SHALL BE HILTI RE 500 SD. SIMPSON SET XP. POWERS PE1000+ OR ENGINEER-APPROVED EQUIVALENT. FOLLOW ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. AVERAGE SPACING BETWEEN REINFORCED CELLS SHALL NOT EXCEED 48" O.C.
5. REINFORCED CORES SHALL NOT BE SHIFTED MORE THAN 12" FROM THE LOCATIONS SHOWN W/ OUT APPROVAL FROM THE ENGINEER.
6. THE CONTRACTOR SHALL REPORT ANY CONFLICTS BETWEEN REINF. CELLS & EXISTING ARCHITECTURAL FINISHES OR ELECTRICAL & MECHANICAL EQUIPMENT TO A/E TEAM.
7. SEE GENERAL STRUCTURAL NOTES FOR GROUT MATERIAL REQUIREMENTS. GROUT SHALL BE INSTALLED IN 4'-0" LIFTS. AT CONTRACTORS OPTION CELLS MAY BE FILLED W/ SHOTCRETE W/ MIN 3000psi COMPRESSIVE STRENGTH.
8. IN CASE OF NON-ALIGNING MASONRY CELLS, THE CONTRACTOR SHALL REMOVE WEBS IN THE MASONRY BLOCK AS REQ'D TO MAINTAIN 1.1/2" OF COVER AROUND THE REINF BAR.
9. SEE ARCH DRAWINGS FOR FINISHES @ REINFORCED CELLS.
10. BUILT UP STEEL POSTS AT EXIST WINDOWS SHALL BE PLACED BE DIRECTLY BEHIND EXIST MULLION. WHERE EXIST PARTITION WALL ALIGNS CLOSELY W/ WINDOW MULLION PLACE POST AT CENTER OF PARTITION.

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CONSULTANT INFORMATION

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KEYED NOTES

LICENSED STATE OF UTAH #154201 ARTHUR PARRY BROWN REGISTERED STRUCTURAL ENGINEER
9/17/2009

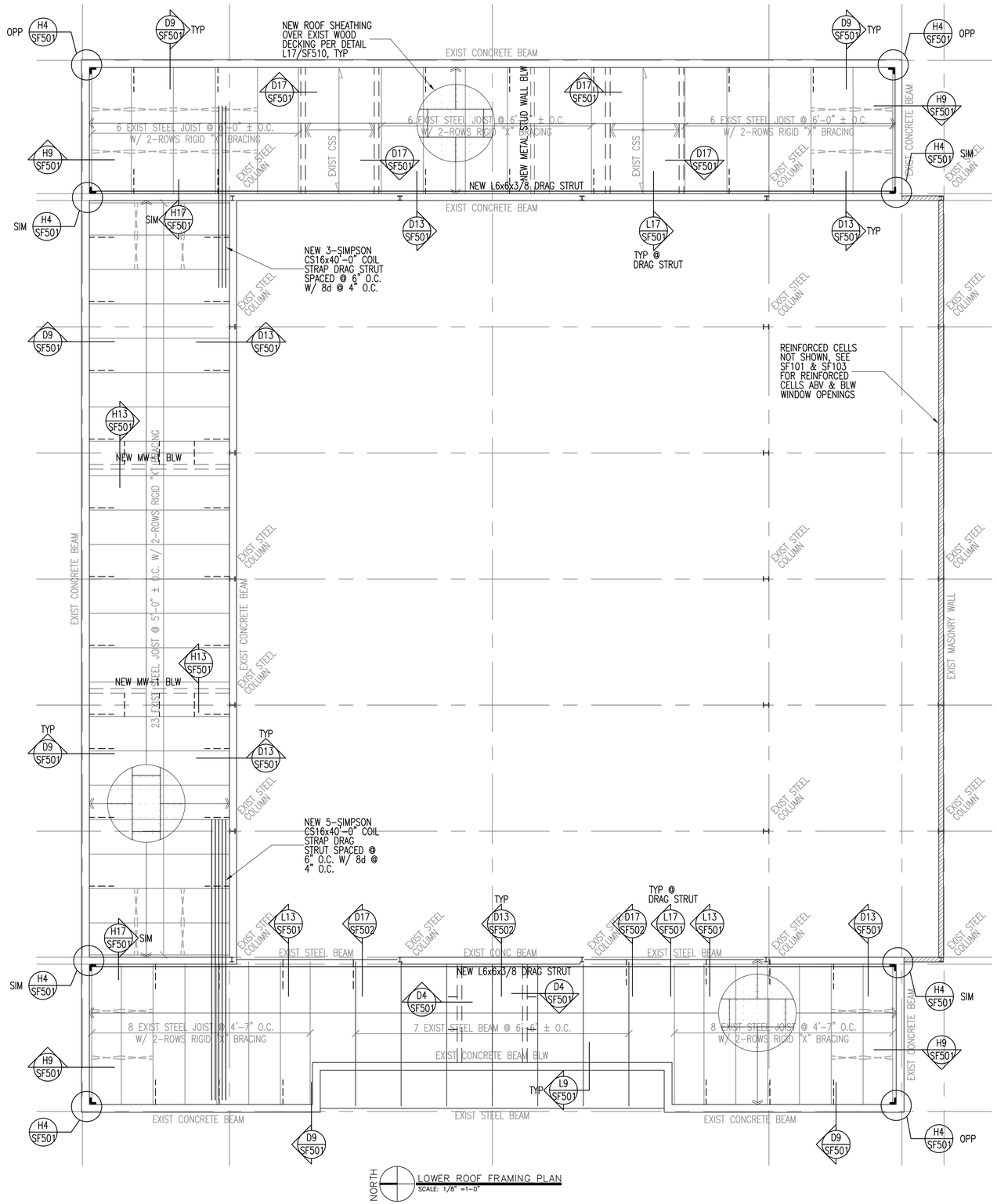
Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
1ST FLOOR WALL PLAN

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY TL/RE+A
CHECKED BY APB/RE+A
PROJECT NO. 08297840
DRAWING NO. SF101
DATE JUNE 17, 2009

Utah National Guard - Price Armory - Seismic Upgrade



EXISTING ITEMS PLAN LEGEND

LEG-EXIST

- EXISTING CONCRETE BEAM
- EXISTING MASONRY WALL
- EXISTING STEEL COLUMN – WIDE FLANGE
- EXISTING STEEL BEAM OR GIRDER
- EXISTING STEEL JOIST OR PURLIN
- EXISTING CROSS BRIDGING
- EXISTING HORIZONTAL BRIDGING

LOWER ROOF FRAMING PLAN LEGEND

LEG-FLOOR

- ANGLE BRACKET
- KICKER
- SIMPSON COIL STRAP
- STEEL DRAG STRUT

ROOF FRAMING PLAN NOTES

NOTE-ROOF

1. VERIFY SIZE, WEIGHT, LOCATION AND CONFIGURATION OF ALL ROOF TOP EQUIPMENT WITH ARCHITECT AND MECHANICAL ENGINEER. PROVIDE STEEL FRAMES FOR SUPPORT OF ROOF TOP EQUIPMENT AS INDICATED IN DETAIL D3/SF501 COORDINATE OPENINGS WITH MECHANICAL AND ELECTRICAL AND GENERAL CONTRACTORS.
2. ALL ROOF OPENINGS SHALL BE FRAMED AS INDICATED IN DETAILS D1 & D2/SF501. FOR ROUND OPENINGS WHICH ARE LESS THAN 12"ø SEE DETAIL D4/SF501.
3. SEE ARCHITECTURAL FOR ROOF SLOPES AND DRAINS. SEE D5/SF501 FOR ROOF DRAIN OPENING FRAME.

EXISTING CONDITIONS FRAMING PLAN NOTES

1. CONTRACTOR SHALL REFER TO EXISTING DRAWINGS FOR INFORMATION REGARDING EXISTING FLOOR OR ROOF STRUCTURE.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION, REMOVAL & REPLACEMENT, EXCAVATIONS, DETAILING, MANUFACTURING, FORMING OR INSTALLING ANY GIVEN STRUCTURAL ELEMENT.
3. ALL DIMENSIONS PROVIDED AT EXISTING CONDITIONS ARE FOR BIDDING PURPOSES ONLY, FIELD VERIFY.
4. IF CONDITIONS SHOWN DO NOT MATCH EXISTING CONDITIONS, CONTACT A/E AS SOON AS POSSIBLE. DO NOT PROCEED WITH DEMOLITION OR CONSTRUCTION.
5. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING OF EXISTING STRUCTURE THAT IS TO REMAIN.
6. CONTRACTOR SHALL NOT DAMAGE EXISTING STRUCTURE THAT IS TO REMAIN DURING DEMOLITION OR NEW CONSTRUCTION.
7. EXISTING CONCRETE BEAM REINFORCING SHALL NOT BE DAMAGED DURING EPOXY DOWEL OR ANCHOR INSTALLATION.
8. EXISTING ROOF AND FLOOR STRUCTURE LAYOUT IS FOR INFORMATION AND BIDDING PURPOSES ONLY, FIELD VERIFY.

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KEYED NOTES

LICENSED REGISTERED STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN UTAH
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 600 EAST
PRICE, UTAH

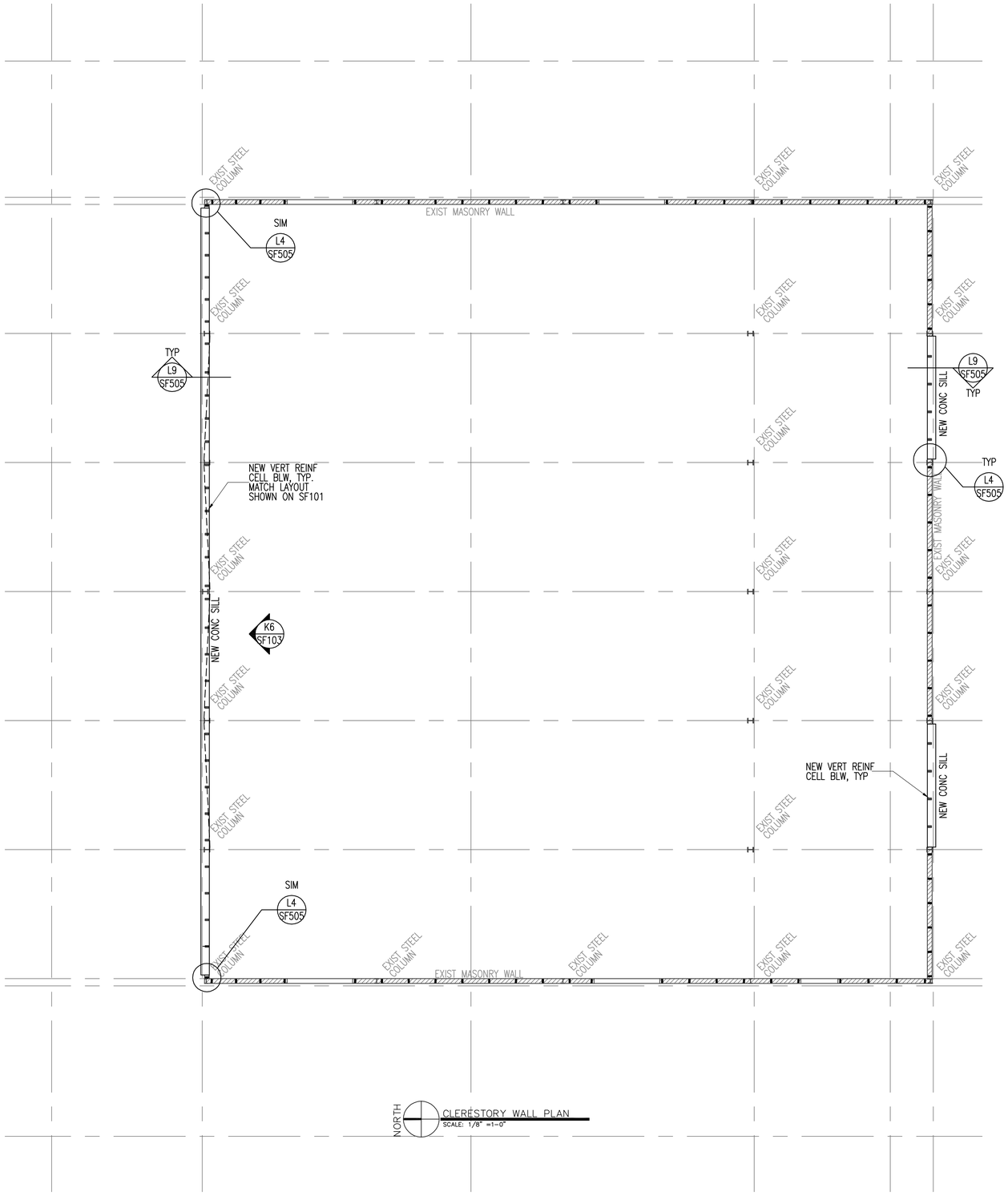
SHEET TITLE

LOWER ROOF FRAMING PLAN

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY: TL/RE+A
CHECKED BY: APB/RE+A
PROJECT NO.: 08297840
DRAWING NO.: SF102
DATE: JUNE 17, 2009

Utah National Guard - Price Armory - Seismic Upgrade



CLERESTORY WALL PLAN
SCALE: 1/8" =1-0"

EXISTING ITEMS PLAN LEGEND

LEG-EXIST

- EXISTING MASONRY WALL
- EXISTING OPENING THROUGH MASONRY WALL
- EXISTING STEEL COLUMN – WIDE FLANGE

FLOOR FRAMING PLAN LEGEND

LEG-FLOOR

- MASONRY WALL
- STEEL COLUMN – TUBE
- VERT REINF CELL
- DIAGONAL BRACE
- CONC BEAM

WALL PLAN NOTES

NOTE-WALL

1. ALL REINFORCED CELLS SHALL CONTAIN 1–#5 BAR UNO. BARS SHALL BE PLACED IN CENTER OF CELLS.
2. ALL EPOXY DOWELS SHALL BE #5 BARS W/ 7" EMBEDMENT UNO.
3. ALL EPOXY SHALL BE HILTI RE 500 SD. SIMPSON SET XP. POWERS PE1000+ OR ENGINEER–APPROVED EQUIVALENT. FOLLOW ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. AVERAGE SPACING BETWEEN REINFORCED CELLS SHALL NOT EXCEED 48" O.C.
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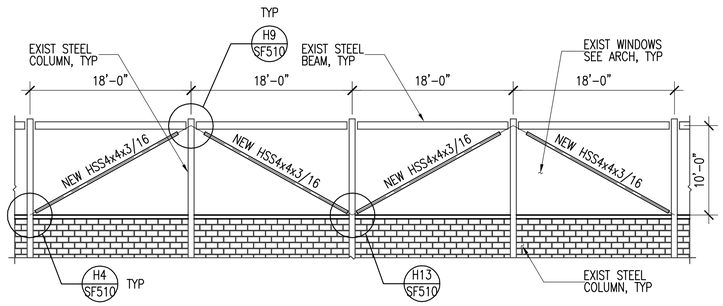

K6 / SF103 SOUTH WALL ELEVATION W/ NEW VERTICAL REINFORCED CORES
SCALE: 1/8" =1-0"

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LICENSED STATE OF UTAH #154201 ARTHUR PARRY BROWN REGISTERED STRUCTURAL ENGINEER
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
CLERESTORY WALL PLAN

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY TL/RE+A
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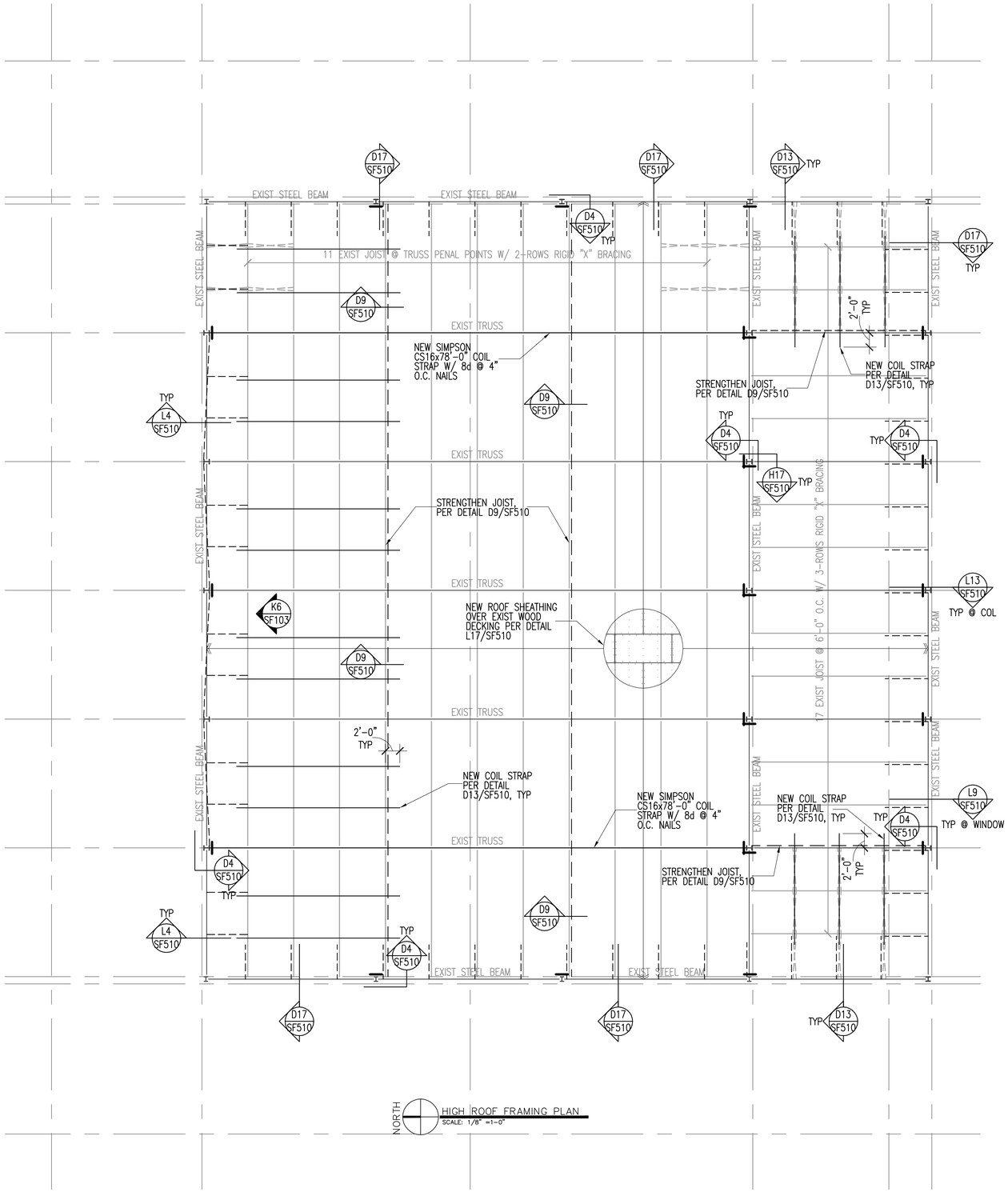
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SF103

Utah National Guard - Price Armory - Seismic Upgrade



EXISTING ITEMS PLAN LEGEND

LEG-EXIST

- EXISTING MASONRY WALL
- EXISTING OPENING THROUGH MASONRY WALL
- EXISTING STEEL COLUMN – WIDE FLANGE
- EXISTING STEEL BEAM OR GIRDER
- EXISTING STEEL JOIST OR PURLIN
- EXISTING CROSS BRIDGING
- EXISTING HORIZONTAL BRIDGING

HIGH ROOF FRAMING PLAN LEGEND

LEG-HIGH ROOF

- DRAG STRUT CONNECTION AT EXISTING BEAMS TO EXISTING COLUMN
- DIAGONAL BRACE
- KICKER
- SIMPSON COIL STRAP
- STEEL DRAG STRUT

ROOF FRAMING PLAN NOTES

NOTE-ROOF

1. VERIFY SIZE, WEIGHT, LOCATION AND CONFIGURATION OF ALL ROOF TOP EQUIPMENT WITH ARCHITECT AND MECHANICAL ENGINEER. PROVIDE STEEL FRAMES FOR SUPPORT OF ROOF TOP EQUIPMENT AS INDICATED IN DETAIL D3/SF501 COORDINATE OPENINGS WITH MECHANICAL AND ELECTRICAL AND GENERAL CONTRACTORS.
2. ALL ROOF OPENINGS SHALL BE FRAMED AS INDICATED IN DETAILS D1 & D2/SF501. FOR ROUND OPENINGS WHICH ARE LESS THAN 12"ø SEE DETAIL D4/SF501.
3. SEE ARCHITECTURAL FOR ROOF SLOPES AND DRAINS. SEE D5/SF501 FOR ROOF DRAIN OPENING FRAME.

EXISTING CONDITIONS FRAMING PLAN NOTES

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CONSULTANT INFORMATION
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KEYED NOTES

LICENSED STATE OF UTAH #154201 ARTHUR PARRY BROWN REGISTERED STRUCTURAL ENGINEER
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
HIGH ROOF FRAMING PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY TL/RE+A
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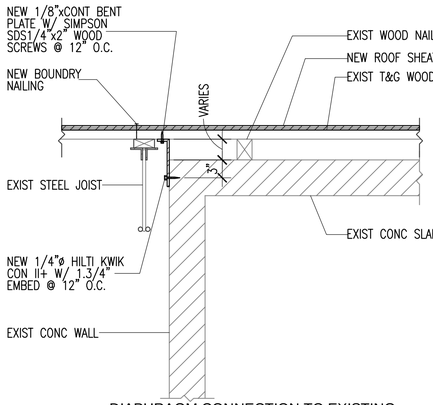
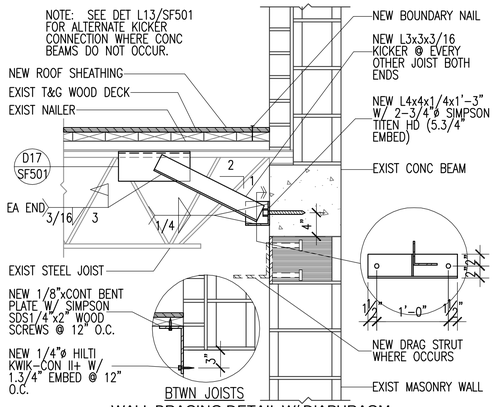
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SF104

Utah National Guard - Price Armory - Seismic Upgrade



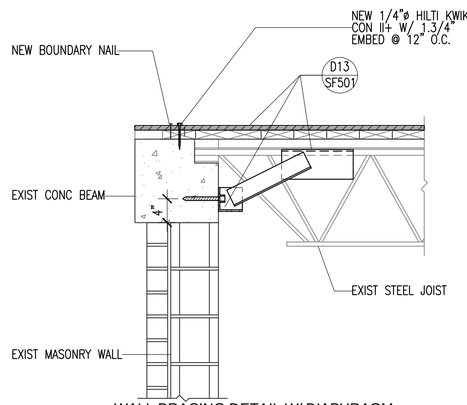
D17 / SF501 DIAPHRAGM CONNECTION TO EXISTING CONCRETE WALL
NO SCALE

2009-048-SF501/D17



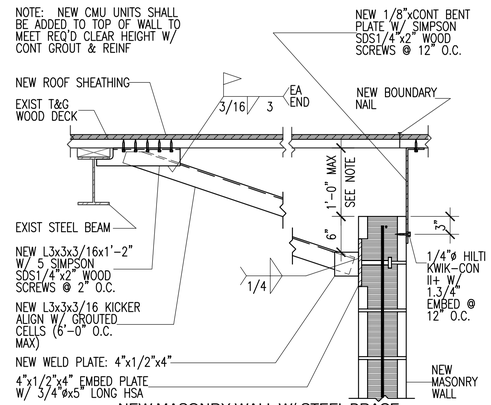
D13 / SF501 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION
NO SCALE

2009-048-SF501/D13



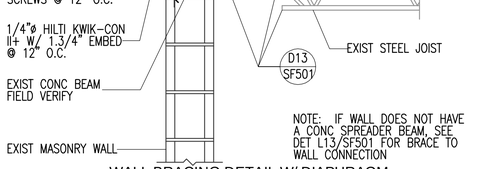
D9 / SF501 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION
NO SCALE

2009-048-SF501/D9



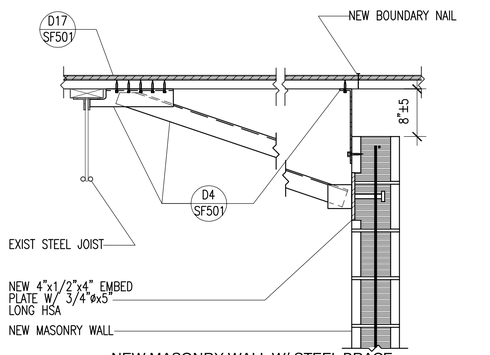
D4 / SF501 NEW MASONRY WALL W/ STEEL BRACE CONNECTION TO EXISTING STEEL BEAM
NO SCALE

2009-048-SF501/D4



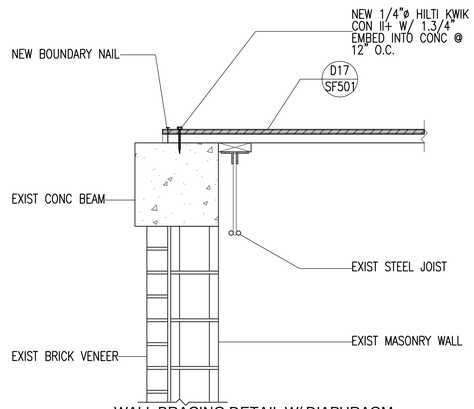
H17 / SF501 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION
NO SCALE

2009-048-SF501/H17



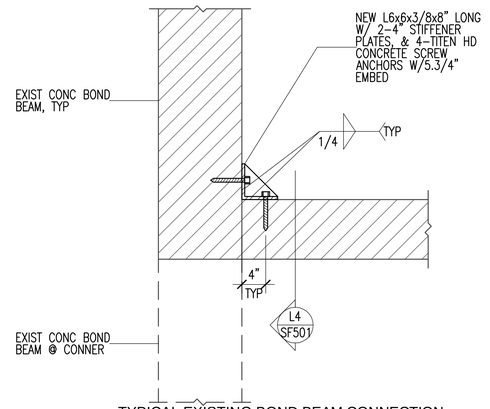
H13 / SF501 NEW MASONRY WALL W/ STEEL BRACE CONNECTION TO EXISTING STEEL JOIST
NO SCALE

2009-048-SF501/H13



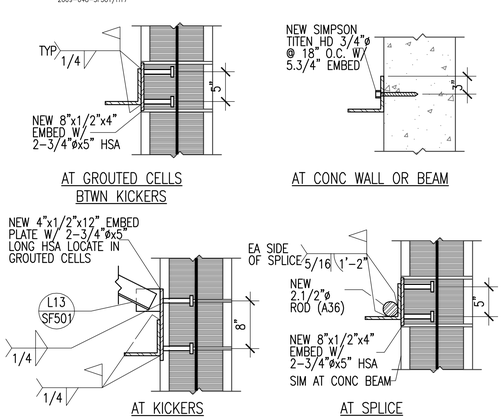
H9 / SF501 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION
NO SCALE

2009-048-SF501/H9



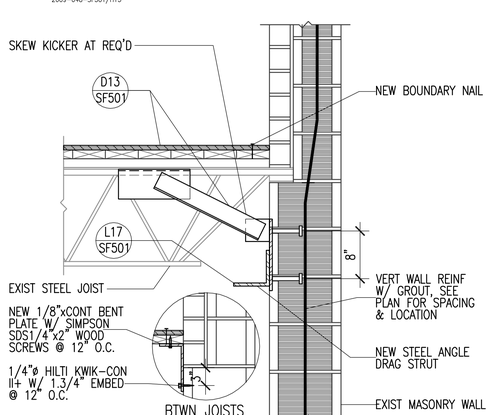
H4 / SF501 TYPICAL EXISTING BOND BEAM CONNECTION BRACKET (PLAN VIEW)
NO SCALE

2009-048-SF501/H4



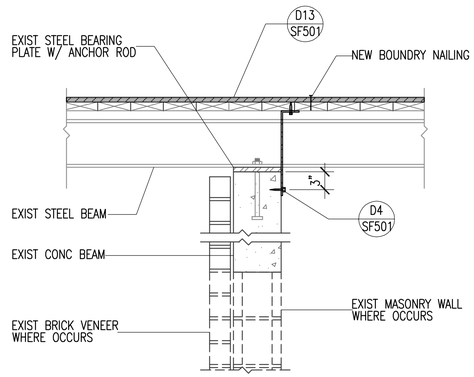
L17 / SF501 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION
NO SCALE

2009-048-SF501/L17



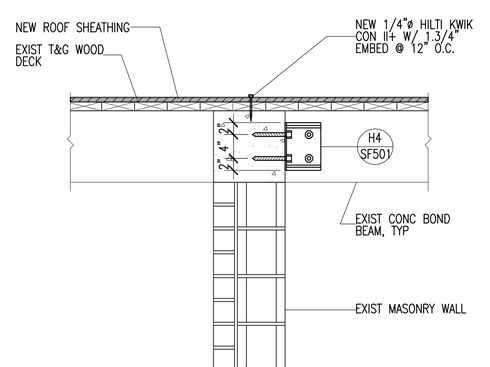
L13 / SF501 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION
NO SCALE

2009-048-SF501/L13



L9 / SF501 DIAPHRAGM TO WALL CONNECTION
NO SCALE

2009-048-SF501/L9



L4 / SF501 TYPICAL EXISTING BOND BEAM CONNECTION BRACKET
NO SCALE

2009-048-SF501/L4

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CONSULTANT INFORMATION
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Consulting Structural Engineers

KEYED NOTES

LICENSED CERTIFIED STRUCTURAL ENGINEER #154201 ARTHUR PARRY BROWN UTAH
9/17/2009

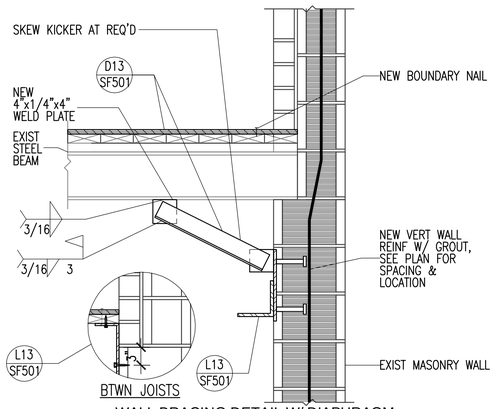
Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
LOWER ROOF FRAMING DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY TL/RE+A
CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SF501

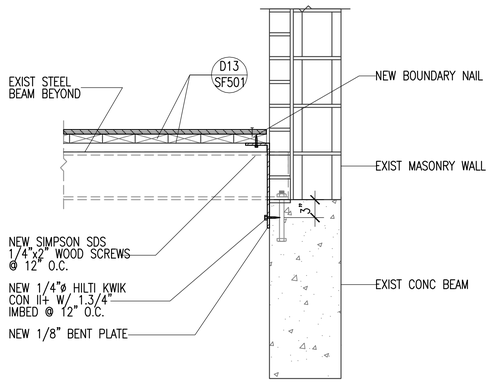
Utah National Guard - Price Armory - Seismic Upgrade



WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION

D17 / SF502 NO SCALE

2009-048-SF502/D17



DIAPHRAGM TO WALL CONNECTION

D13 / SF502 NO SCALE

2009-048-SF502/D13

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PARRY
BROWN
UTAH
9/17/2009

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

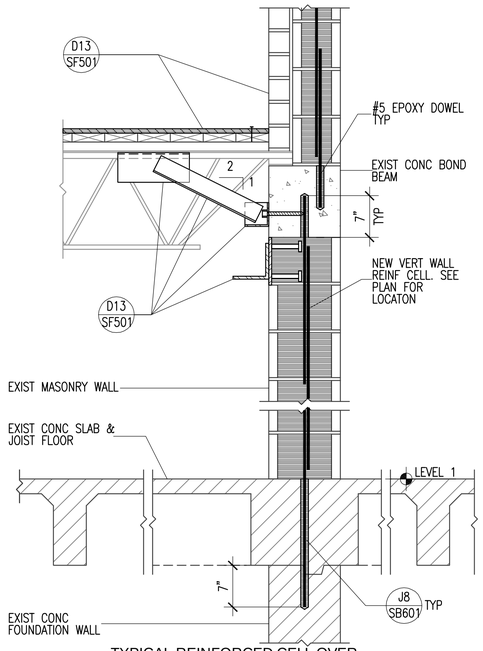
SHEET TITLE

LOWER ROOF FRAMING DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY TL/RE+A
CHECKED BY APB/RE+A
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SF502

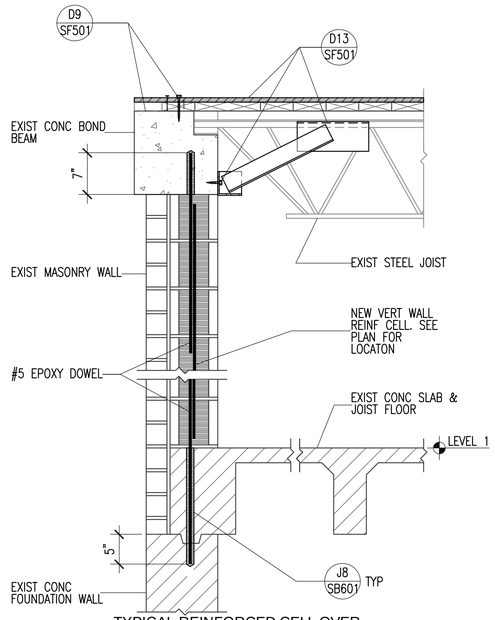
Utah National Guard - Price Armory - Seismic Upgrade



TYPICAL REINFORCED CELL OVER CONCRETE WALL

F17 / SF505 NO SCALE

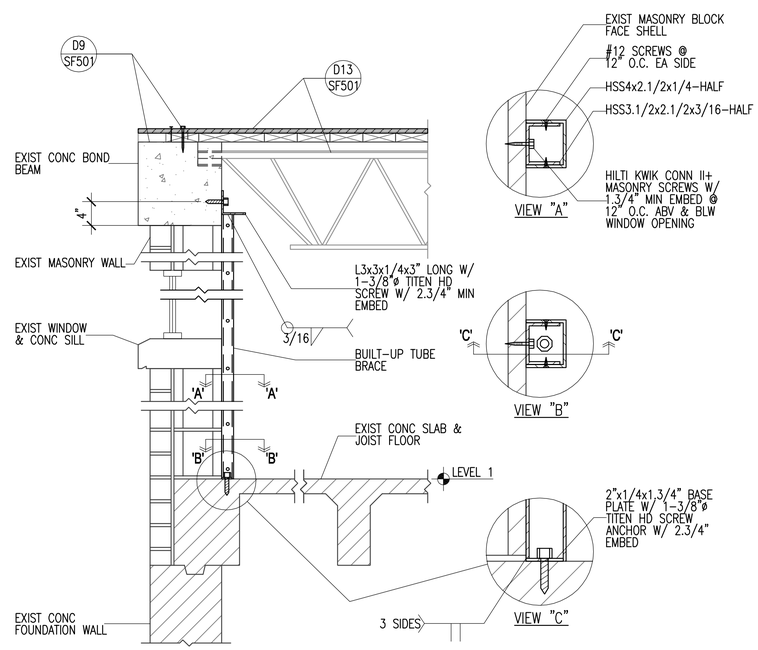
2009-048-SF505/F17



TYPICAL REINFORCED CELL OVER CONCRETE WALL

F13 / SF505 NO SCALE

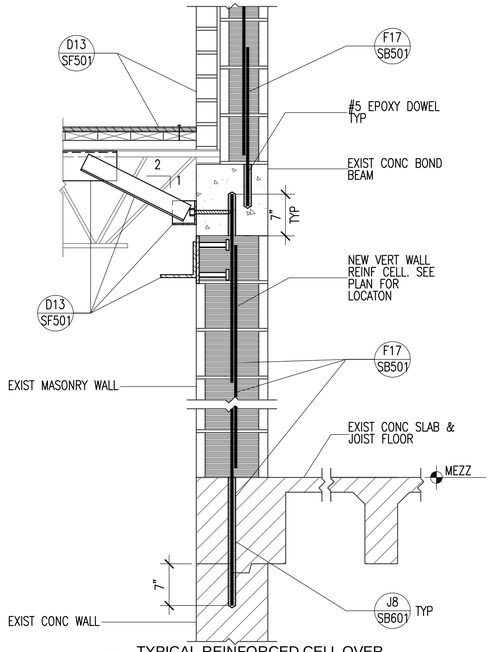
2009-048-SF505/F13



F9 / SF505 TYPICAL BUILU-UP STEEL POST BRACE AT STRIP WINDOW

NO SCALE

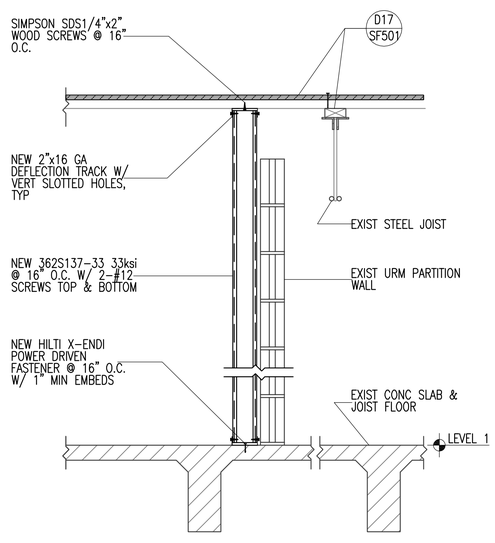
2009-048-SF505/F9



TYPICAL REINFORCED CELL OVER CONCRETE WALL

L17 / SF505 NO SCALE

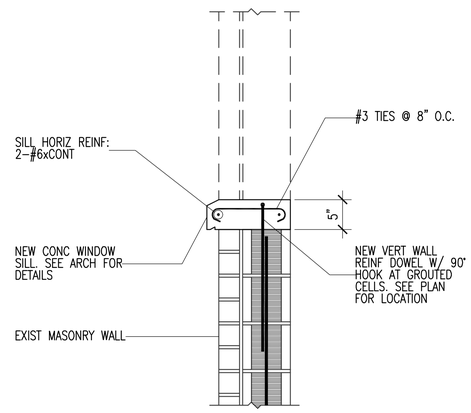
2009-048-SF505/L17



METAL STUD WALL BRACE AT EXISTING CORRIDOR

L13 / SF505 NO SCALE

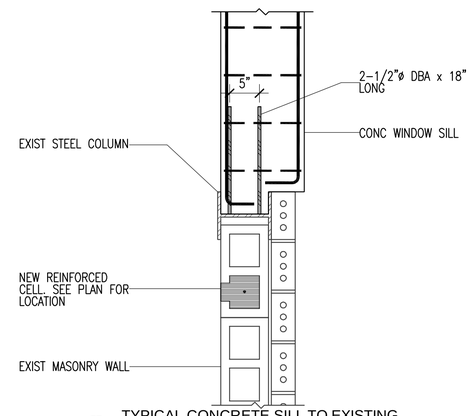
2009-048-SF505/L13



NEW CONCRETE SILL AT SOUTH WINDOW

L9 / SF505 NO SCALE

2009-048-SF505/L9



TYPICAL CONCRETE SILL TO EXISTING COLUMN CONNECTION (PLAN VIEW)

L4 / SF505 NO SCALE

2009-048-SF505/L4

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SHEET TITLE
WALL DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
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DRAWN BY TL/RE+A
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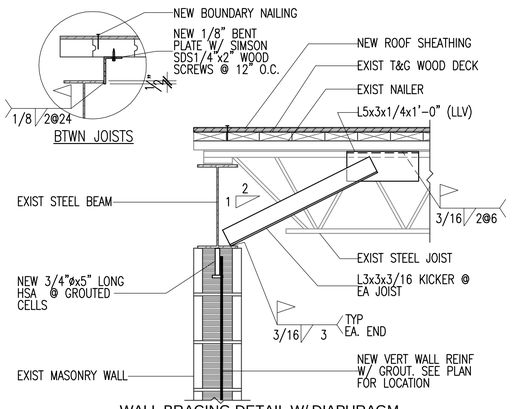
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. SF505

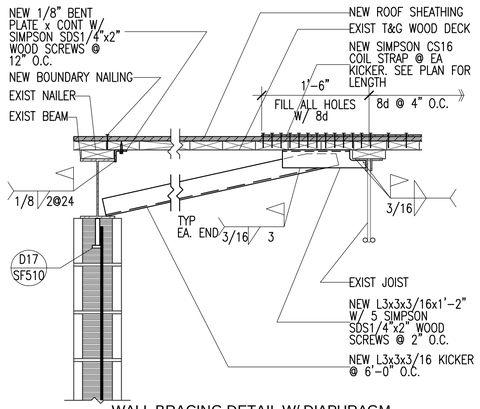
Utah National Guard - Price Armory - Seismic Upgrade



D17 SF510 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION

SF510 NO SCALE

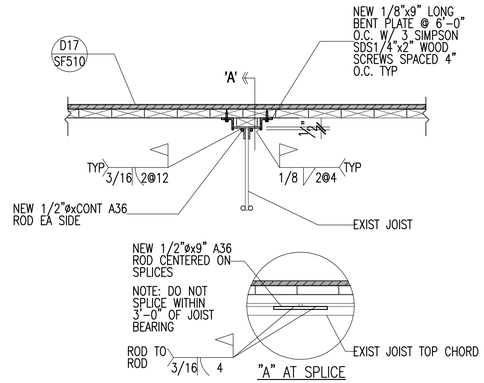
2009-048-SF502/D17



D13 SF510 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION

SF510 NO SCALE

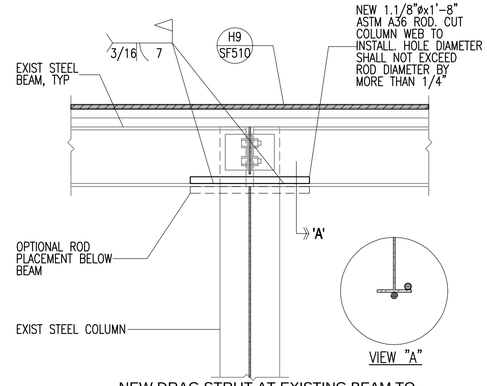
2009-048-SF502/D13



D9 SF510 JOIST STRENGTHENING DETAIL

SF510 NO SCALE

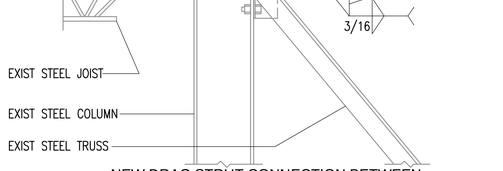
2009-048-SF502/D9



D4 SF510 NEW DRAG STRUT AT EXISTING BEAM TO EXISTING BEAM CONNECTION

SF510 NO SCALE

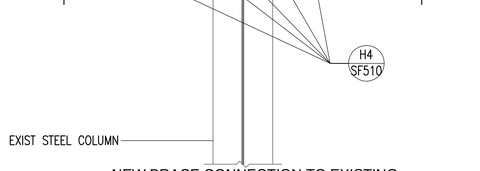
2009-048-SF502/D4



H17 SF510 NEW DRAG STRUT CONNECTION BETWEEN EXISTING JOIST & EXISTING TRUSS

SF510 NO SCALE

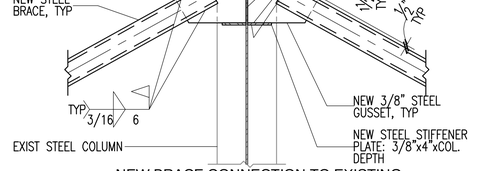
2009-048-SF501/H17



H13 SF510 NEW BRACE CONNECTION TO EXISTING COLUMN

SF510 NO SCALE

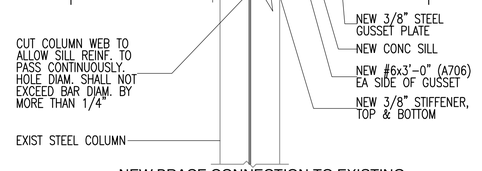
2009-048-SF501/H13



H9 SF510 NEW BRACE CONNECTION TO EXISTING BEAM & COLUMN

SF510 NO SCALE

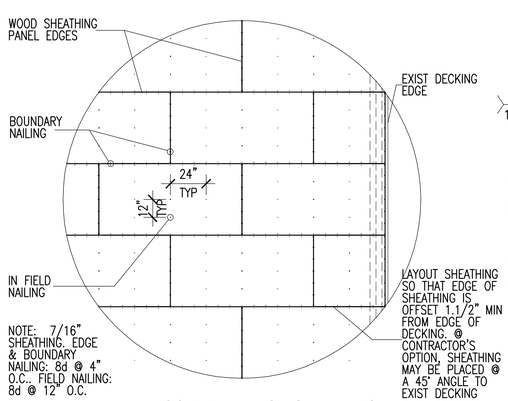
2009-048-SF501/H9



H4 SF510 NEW BRACE CONNECTION TO EXISTING COLUMN

SF510 NO SCALE

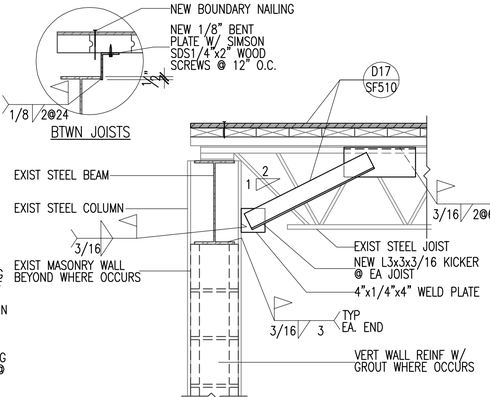
2009-048-SF501/H4



L17 SF510 NEW WOOD DIAPHRAGM SHEATHING PANEL LAYOUT ON EXISTING ROOF DECK - PLAN VIEW

SF510 NO SCALE

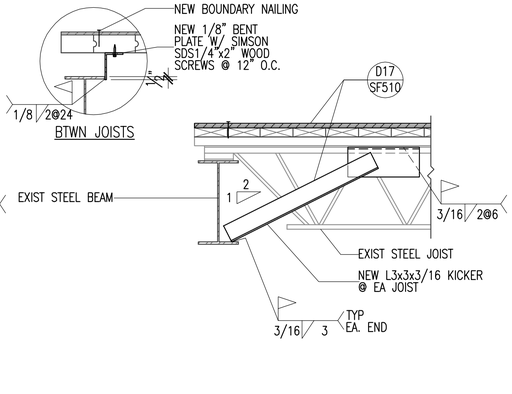
2009-048-SF501/L17



L13 SF510 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION AT STEEL COLUMN

SF510 NO SCALE

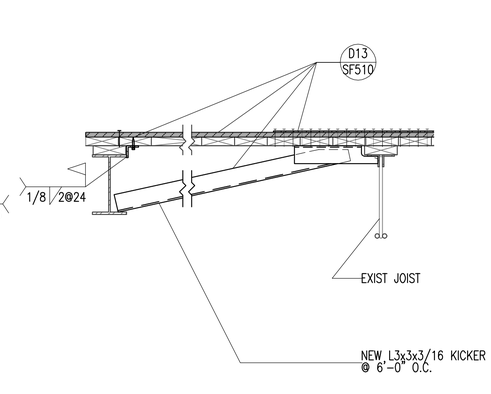
2009-048-SF510/L13



L9 SF510 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION AT WINDOW BELOW

SF510 NO SCALE

2009-048-SF510/L9



L4 SF510 WALL BRACING DETAIL W/ DIAPHRAGM CONNECTION AT WINDOW BELOW

SF510 NO SCALE

2009-048-SF510/L4

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PRICE, UTAH

SHEET TITLE

HIGH ROOF FRAMING DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
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△			

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PROJECT NO. 08297840

DATE JUNE 17, 2009

DRAWING NO. SF510

Utah National Guard - Price Armory - Seismic Upgrade

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

MECHANICAL

- POSITIVE PRESSURE DUCT - RISE
- POSITIVE PRESSURE DUCT - DROP
- NEGATIVE PRESSURE DUCT - RISE
- NEGATIVE PRESSURE DUCT - DROP
- ROUND DUCT - RISE
- ROUND DUCT - DROP
- TURNING VANES
- FRESH AIR LOUVER
- RELIEF AIR OR EXHAUST AIR LOUVER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER
- 22X22 / 200 — CEILING RETURN REGISTER
- 12X12 / 200 — CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
- 24X10 / 200 — SIDEWALL SUPPLY REGISTER
- 24X10 / 200 — SIDEWALL EXHAUST OR RETURN REGISTER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
- 12X12 / 200 — CEILING AIR GRILLE WITH FLEXIBLE DUCT

(TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.)

- CEILING RETURN AIR GRILE W/ SOUND BOOT
- 3-1" SLOTS @ 48" 400 — LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
- FLEXIBLE DUCT CONNECTION
- FLEXIBLE DUCT
- FAN
- 12/8 — RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12ø — ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- UP — INCLINED RISE
- DN — INCLINED DROP

(WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.)

- W, R — R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
- 12/12, 8/8 — RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
- 12/12, 12ø — RECTANGULAR TO ROUND DUCT TRANSFORMATION
- R — BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
- TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
- 12ø, 12/12 — HIGH EFFICIENCY FITTING
- MANUAL VOLUME DAMPER
- FD — FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
- FSD — COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
- SD — SMOKE DAMPER W/ ACCESS PANEL
- BDD — BACK DRAFT DAMPER
- ATCD, DR — ATC DAMPER
- AD — ACCESS PANEL IN DUCT OR PLENUM
- HEATING OR COOLING COIL IN DUCT
- SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1-1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
- 4-WAY BLOW PATTERN
- 3-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 2-WAY BLOW PATTERN
- 1-WAY BLOW PATTERN
- SD — DUCT SMOKE DETECTOR
- UNIT HEATER

PLUMBING

- FLOOR SINK
- FLOOR DRAIN
- FCO / COTG — FLOOR CLEAN-OUT OR CLEAN-OUT TO GRADE
- ROOF DRAIN
- DOWNSPOUT NOZZLE
- ARROW INDICATES DIRECTION OF FLOW IN PIPE
- CHECK VALVE
- PRESSURE REDUCING, EXTERNAL PRESSURE VALVE
- PRESSURE REDUCING, SELF CONTAINED VALVE
- ATC VALVE - 2 WAY
- ATC VALVE - 3 WAY
- SOLENOID VALVE
- GATE VALVE
- MANUAL BALL VALVE
- GLOBE VALVE
- TEMPERATURE AND PRESSURE TEST PORT
- PRESSURE SWITCH
- LUBRICATED PLUG VALVE
- CALIBRATED BALANCING VALVE WITH GPM INDICATED
- 0.0 GPM — FLOW CONTROL VALVE
- BRANCH - BOTTOM CONNECTION
- BRANCH - TOP CONNECTION
- BRANCH - SIDE CONNECTION
- RISE OR DROP
- RISER - DOWN (ELBOW)
- RISER - DOWN (ELBOW)
- OVTR — VENT THRU ROOF
- WATER HAMMER ARRESTOR
- INLINE PUMP
- INLINE PUMP
- CLEAN-OUT
- RELIEF VALVE
- ANGLE VALVE
- FLOW METER
- UNION
- GAS COCK
- SHUT-OFF COCK FOR USE WITH PRESSURE GAUGE
- FLEXIBLE EXPANSION JOINT
- THERMOMETER - TEMP RANGE AS INDICATED
- PRESSURE GAUGE WITH SHUT-OFF COCK
- PRESSURE GAUGE WITH PIGTAIL
- LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- BALL VALVE (PIPE SIZES 2" AND SMALLER) BUTTERFLY VALVE (PIPE SIZES 2-1/2" AND LARGER)
- MOTOR OPERATED BUTTERFLY VALVE
- VALVE IN RISE
- AIR VENT-MANUAL
- AIR VENT-AUTO
- FLOW SWITCH
- REDUCER
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER

PLUMBING CONT.

- HOSE BIBB
- PIPE CAP
- SWITCH
- SENSOR
- THERMOSTAT
- NIGHT THERMOSTAT
- FILL PORT
- DRAIN PAN AND P-TRAP
- (NAME) — FIXTURE FROM LEVEL ABOVE
- GPM, LB/HR — FLOW METER ORIFICE
- FLANGE
- 90° ELBOW
- 45° ELBOW
- DN — LEADER INDICATES DOWNWARD SLOPE

LINETYPES

- CF — CHEMICAL FEED
- DOMESTIC COLD WATER (DCW)
- DOMESTIC HOT WATER (DHW)
- DOMESTIC HOT WATER RETURN (DHWR)
- GS — GEOTHERMAL SUPPLY
- GR — GEOTHERMAL RETURN
- G — NATURAL GAS
- HWR — HEATING HOT WATER RETURN
- HWS — HEATING HOT WATER SUPPLY
- RD — ROOF DRAIN
- RDO — ROOF DRAIN OVERFLOW
- SEWER (BELOW GRADE)
- SEWER (ABOVE GRADE)
- VENT (SEWER)

SYMBOLS

- P-1 — PLUMBING FIXTURES
- POINT OF CONNECTION
- A / M-101 — SECTION TAG - TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 — DETAIL TAG - TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF / 1 — EQUIPMENT IDENTIFICATION
- 1 — KEYED NOTE IDENTIFICATION
- 1 — KITCHEN EQUIPMENT IDENTIFICATION

FIRE

- HOSE VALVE
- NRS GATE VALVE WITH SUPERVISION
- FLOW SWITCH
- FIRE RISER
- SPRINKLER HEAD
- F — FIRE SPRINKLER WATER

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KEYED NOTES #

LICENSED PROFESSIONAL ENGINEER
CLIFFORD DEE HOLMES
08/12/09
NUMBER 309570
STATE OF UTAH

Utah National Guard
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584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
MECHANICAL SYMBOLS & ABBREVIATIONS

REVISIONS	DATE	BY	DESCRIPTION
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△			
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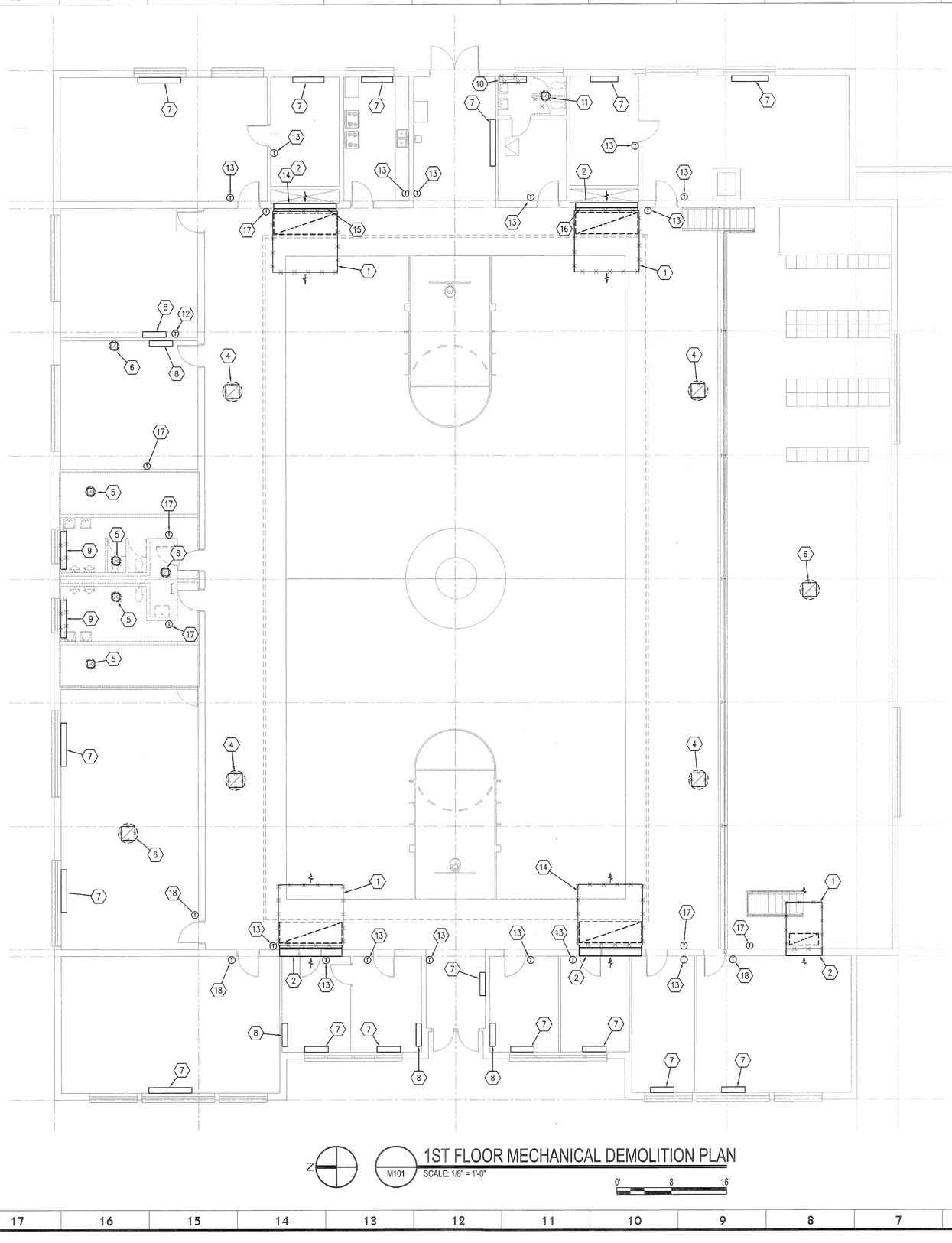
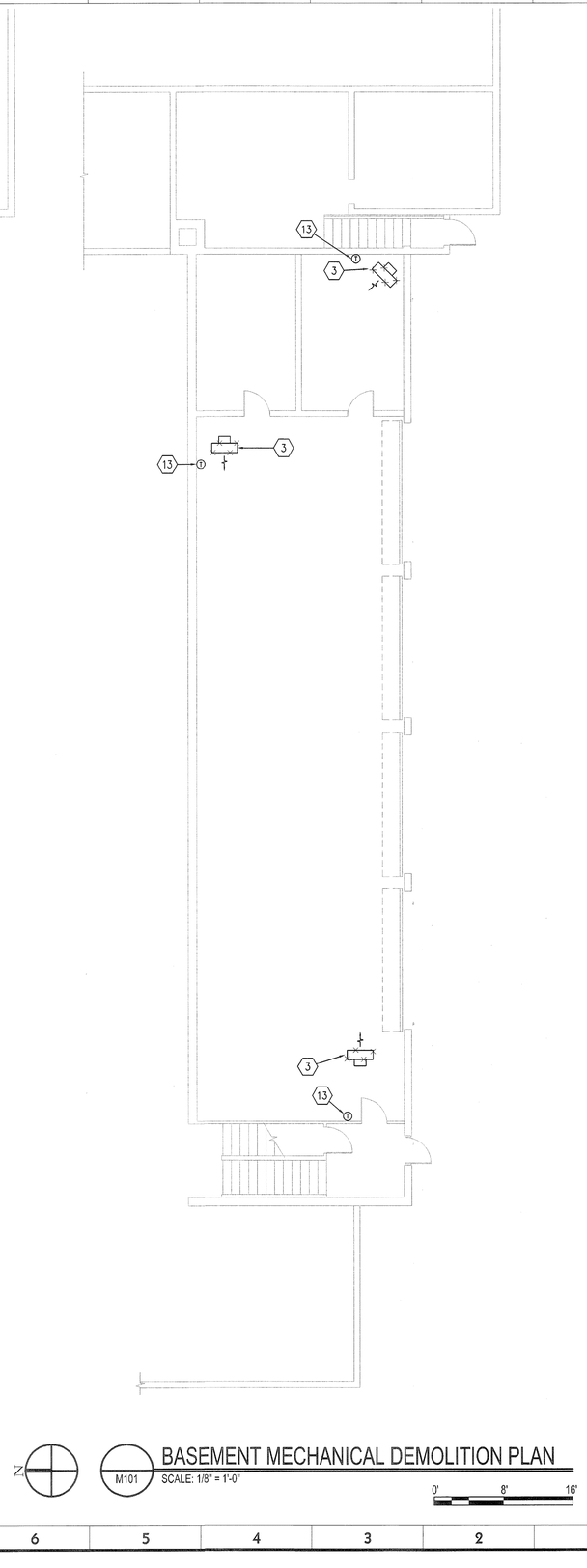
DRAWN BY TJ	CHECKED BY CDH
PROJECT NO. 08297840	DRAWING NO. M000
DATE JUNE 17, 2009	

Utah National Guard - Price Armory - Seismic Upgrade





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VBFA Project Number:9110

KEYED NOTES (#)

1. EXISTING HEATING AIR HANDLER SHALL BE REMOVED IN ITS ENTIRETY. REPLACE WITH NEW. SEE MECHANICAL FLOOR PLAN FOR NEW WORK. CONFIRM EXACT LOCATION.
2. EXISTING OUTSIDE AIR LOUVER TO REMAIN.
3. REMOVE EXISTING STEAM UNIT HEATER IN ITS ENTIRETY. REPLACE WITH NEW. CONFIRM EXACT LOCATION.
4. REMOVE EXISTING ROOF MOUNTED RELIEF AIR VENT AND ASSOCIATED ROOF HOOD IN THEIR ENTIRETY. RETAIN ROOF HOOD FOR RE-INSTALLATION AFTER ROOF IS REPLACED. PROVIDE NEW DAMPER. SEE MECHANICAL FLOOR PLAN.
5. REMOVE EXISTING EXHAUST FAN IN ITS ENTIRETY AND REPLACE WITH NEW IN NEW LOCATION. CONFIRM EXACT LOCATION.
6. REMOVE EXISTING RELIEF AIR VENT AND ASSOCIATED ROOF HOOD IN ITS ENTIRETY. PATCH ROOF AND ABANDON.
7. EXISTING STEAM RADIATOR TO REMAIN.
8. REMOVE EXISTING SPLIT SYSTEM IN ITS ENTIRETY. PATCH AND REPAIR WALLS AS REQUIRED. REMOVE INDOOR UNIT AND ASSOCIATED OUTDOOR UNIT. CONFIRM EXACT LOCATION.
9. REMOVE EXISTING STEAM RADIATOR IN ITS ENTIRETY. CAP STEAM PIPING BELOW FLOOR AND ABANDON. CONFIRM EXACT LOCATION.
10. EXISTING STEAM RADIATOR SHALL BE REMOVED AND RELOCATED TO MAKE WAY FOR REMODEL. CONFIRM EXACT LOCATIONS.
11. REMOVE EXISTING EXHAUST FAN IN ITS ENTIRETY AND REPLACE WITH NEW IN SAME LOCATION. CONFIRM EXACT LOCATION.
12. REMOVE EXISTING THERMOSTAT AND RELOCATE TO NEW LOCATION.
13. EXISTING THERMOSTAT TO REMAIN.
14. EXISTING AIR HANDLER SHALL BE REMOVED IN IT'S ENTIRETY. COVER EXISTING OUTSIDE AIR LOUVER WITH SHEET METAL ON INTERIOR SIDE OF LOUVER. LEAVE EXTERIOR SIDE OF LOUVER AS IS. SEAL SHEET METAL COVER WATER TIGHT WITH SILICONE CAULK.
15. REMOVE EXISTING RETURN AIR DUCT WORK AND PROTECTIVE CAGE.
16. REMOVE EXISTING RETURN AIR GRILLE AND REPLACE WITH NEW.
17. REMOVE EXISTING THERMOSTAT IN IT'S ENTIRETY. PATCH & REPAIR WALL.
18. EXISTING THERMOSTAT TO REMAIN. USE TO CONTROL NEW EQUIPMENT.

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PRICE, UTAH

SHEET TITLE
MECHANICAL DEMOLITION PLAN

REVISIONS	DATE	BY	DESCRIPTION
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PROJECT NO. 08297840
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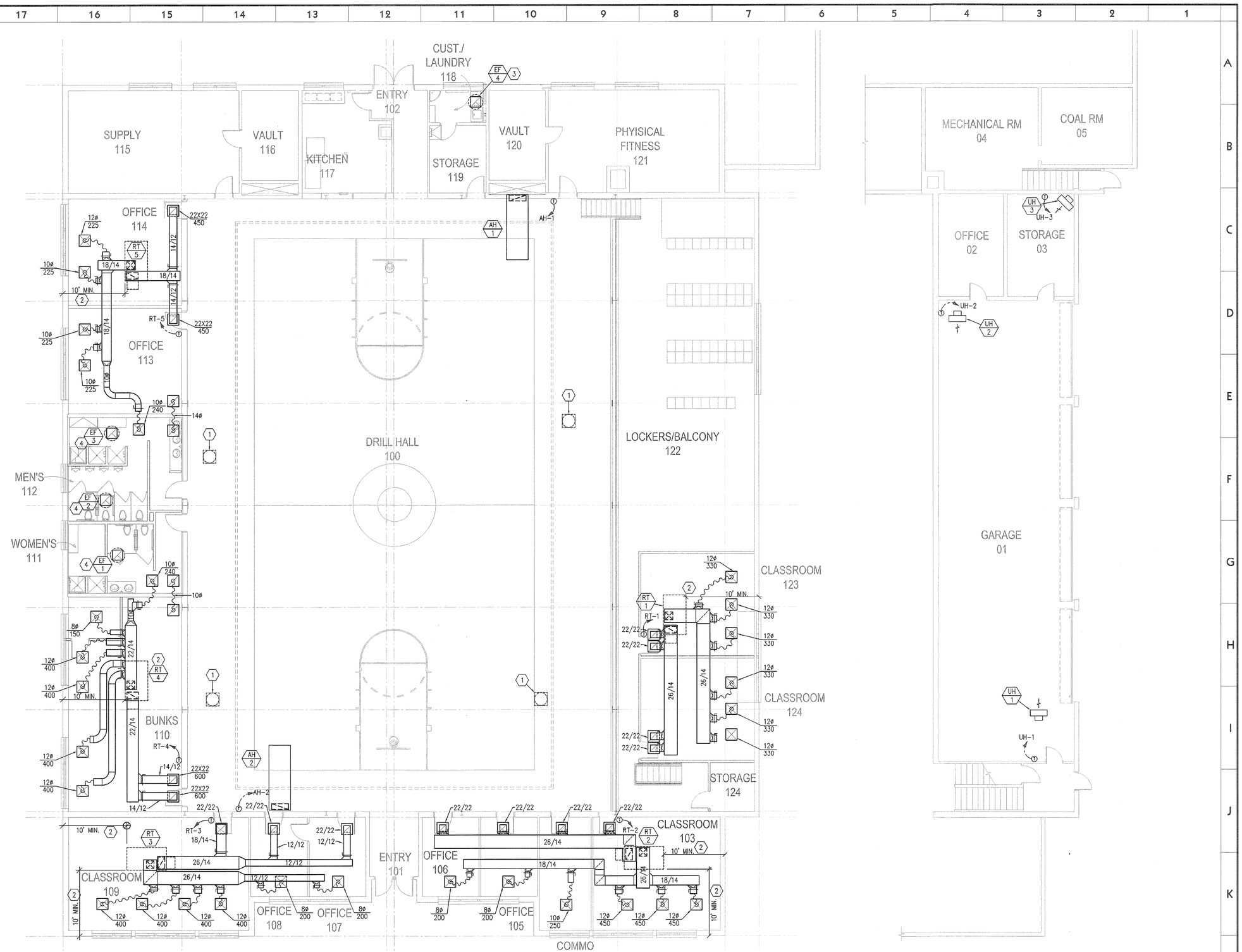
DRAWING NO. M101

Utah National Guard - Price Armory - Seismic Upgrade



1ST FLOOR MECHANICAL PLAN
M201 SCALE: 1/8" = 1'-0"
0' 8' 16'

BASEMENT MECHANICAL PLAN
M201 SCALE: 1/8" = 1'-0"
0' 8' 16'

EFT ARCHITECTS
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KEYED NOTES (#)

1. PROVIDE NEW 32X32 MOTORIZED DAMPER INTERLOCKED WITH AH-1,2 SUCH THAT WHEN AH-1,2 ARE ENERGIZED DAMPER WILL OPEN.
2. DO NOT INSTALL ROOFTOP UNIT CLOSER THAN 10 FEET FROM EDGE OF ROOF.
3. INSTALL NEW ROOF MOUNTED EXHAUST FAN IN SAME LOCATION AS EXISTING. PROVIDE NEW CURB. SEAL ROOF PER ROOFING CONTRACTOR.
4. INSTALL NEW EXHAUST FAN IN NEW LOCATION. SEAL ROOF PENETRATION PER ROOFING CONTRACTOR.

GENERAL NOTES

1. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL DIFFUSERS AND RETURN GRILLES. COORDINATE FRAME STYLE WITH CEILING TYPE.
2. COORDINATE LOCATION OF DUCT, DIFFUSERS AND GRILLES WITH LIGHTING, ELECTRICAL AND OTHER TRADES.
3. TRANSITION DUCT WORK TO ROOF TOP UNIT INLET AND OUTLET.
4. COORDINATE ALL ROOF PENETRATIONS WITH STRUCTURE AND ROOFING CONTRACTOR.

LICENSED PROFESSIONAL ENGINEER
CLIFFORD DEE HOLMES
08/12/09
NUMBER 309570
STATE OF UTAH

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
MECHANICAL PLAN

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
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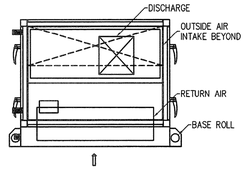
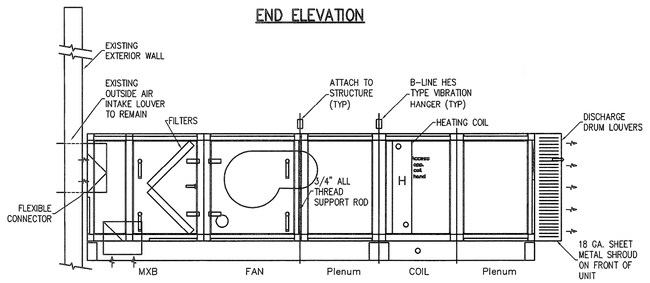
DRAWN BY TJ
CHECKED BY CDH
PROJECT NO. 08297840
DRAWING NO. M201
DATE JUNE 17, 2009

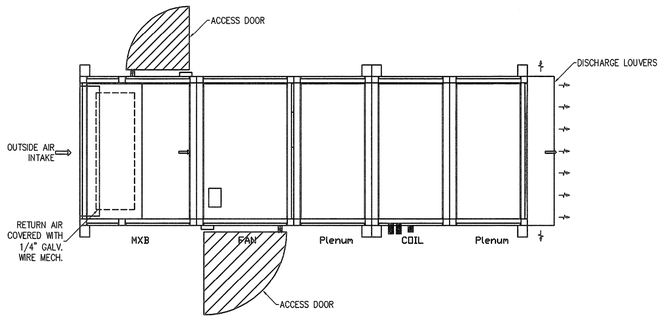
Utah National Guard - Price Armory - Seismic Upgrade



END ELEVATION

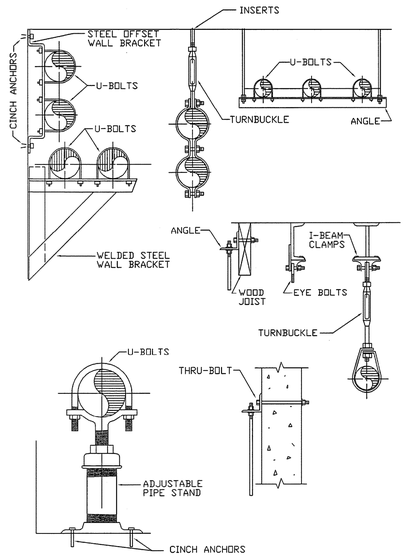


SIDE ELEVATION

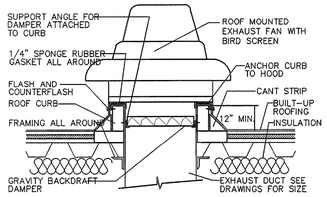


PLAN VIEW

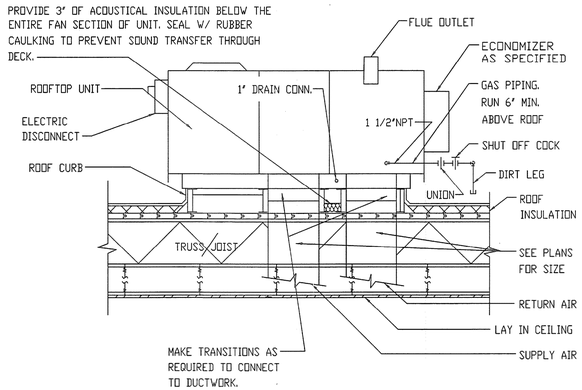
14 M301 AIR HANDLER UNIT DETAIL
NO SCALE



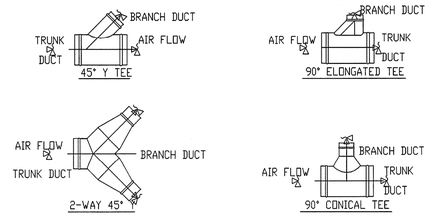
11 M301 TYPICAL PIPE SUPPORT DETAIL
NO SCALE



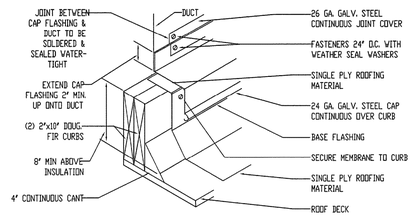
12 M301 ROOF MOUNTED EXHAUST FAN
NO SCALE



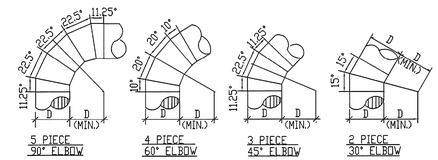
13 M301 ROOFTOP UNIT WITH GAS FIRED HEATING
NO SCALE



6 M301 ROUND DUCT BRANCH TAKE-OFF DETAILS
NO SCALE



7 M301 ROOF CURB DETAIL
NO SCALE



8 M301 ROUND DUCT ELBOW DETAILS
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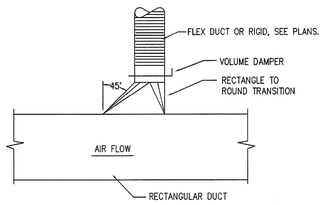

9 M301 HIGH EFFICIENCY TAKE-OFF DETAIL
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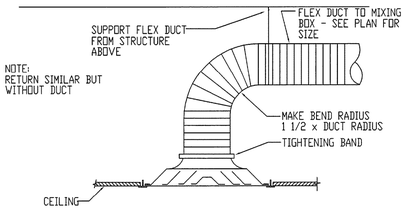

10 M301 DIFFUSER CONNECTION DETAIL-A
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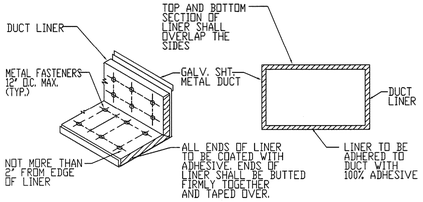
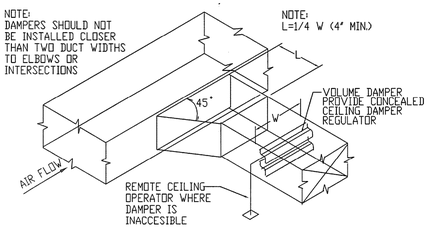
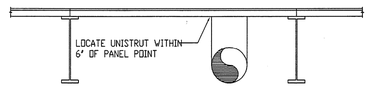


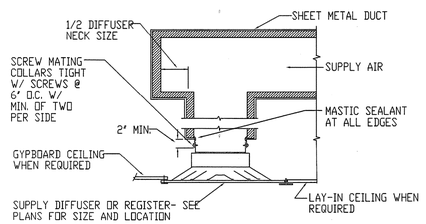
1 M301 DUCT LINER DETAIL
NO SCALE



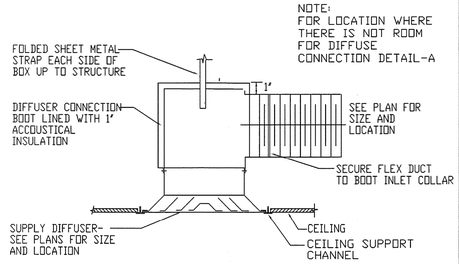
2 M301 BRANCH DUCT TAKE-OFF & DAMPER DETAIL
NO SCALE



3 M301 SUPPORT DETAIL
NO SCALE



4 M301 TYPICAL CEILING DIFFUSER DETAIL
NO SCALE



5 M301 SUPPLY DIFFUSER W/ FLEX DUCT DETAIL-B
NO SCALE

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VBFA Project Number:9110

KEYED NOTES (#)

LICENSED PROFESSIONAL ENGINEER
CLIFFORD DEE HOLMES
08/12/09
NUMBER 309370
STATE OF UTAH

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
MECHANICAL DETAILS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY TJ | CHECKED BY CDH
PROJECT NO. 08997840
DATE JUNE 17, 2009
DRAWING NO. M301

Utah National Guard - Price Armory - Seismic Upgrade

SCHEDULE FOR TYPICAL CONNECTIONS TO STRUCTURAL SUPPORTING MEMBERS

TYPE	MAX. LOAD CAPACITY POUNDS	PHILLIP'S REDHEAD ANCHORS TO CONC. LT. WT.	PHILLIP'S REDHEAD ANCHORS TO CONC. HARD ROCK	CONC. CAST-IN PLACE INSERT	BOLT OF STL.BM. CLAMP
I II	500 1000	3/8" 3/8"	3/8" 3/8"	3/8" 1/2"	3/8" 3/8"
III IV	1500 2000	3/8" 1/2"	3/8" 1/2"	1/2" 5/8"	3/8" 1/2"
V VI	3000 4000	2-1/2" 2-5/8"	2-1/2" 2-5/8"	2-1/2" 2-5/8"	5/8" 5/8"

TYPE	SPREADER SIZE	BOLT THRU WOOD	SPAN-CRETE ROD	ANGLE TO SUPPORTING STRUCTURAL MEMBER	ROD SIZE FOR PIPES
I II	C4X5.4 C5X6.7	1/2" 3/4"	3/8" 3/8"	3X2X1/4"X0'-3" LLH 3-1/2X2-1/2X5/16X0'-3" LLH	1/2" 1/2"
III IV	C6X8.5 C8X11.5	*** ***	1/2" 1/2"	3-1/2X2-1/2X7/16X0'-4" LLH 5X3X1/2X0'-4" LLH	5/8" 3/4"
V VI	C9X13.4 C10X15.3	***		2-3-1/2X2-1/2X7/16X0'-4" 2-5X3X1/2X0'-4"	7/8" * 7/8" **

NOTES:

1 FOR SLABS LESS THAN 5" THICK ONLY, THIN SLAB INSERTS MAY BE USED.

*2 FOR USE W/CONC. CAST-IN PLACE INSERTS OR PHILLIPS REDHEAD IN HARD ROCK ONLY.

**3 FOR USE WITH CONC. CAST-IN PLACE INSERTS ONLY.

***4 WHERE TYPE III CONNECTIONS ARE REQUIRED FOR WOOD SYSTEMS, TYPE II CONNECTIONS SHALL BE USED WITH REDUCED RESTRAINT SPACING TO 20 FT. O.C. WHERE TYPE IV CONNECTIONS ARE REQUIRED FOR WOOD SYSTEMS, TYPE II CONNECTIONS SHALL BE USED WITH REDUCED RESTRAINT SPACING TO 15 FT. O.C. WHERE TYPE V CONNECTIONS ARE REQUIRED FOR WOOD SYSTEMS, TYPE II CONNECTIONS SHALL BE USED WITH REDUCED RESTRAINT SPACING TO 10 FT. O.C.

5 THE MECHANICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER AND THEN TO THE MECHANICAL ENGINEER, SHOWING CONNECTION TYPE AND LOCATION OF ALL RESTRAINT CONNECTIONS TO THE STRUCTURE.

6 FOR ESSENTIAL FACILITIES WHERE CONCRETE ANCHOR BOLTS OF THE "REDHEAD" EXPANSION TYPE ARE LOADED IN PULL OUT, 50 PERCENT OF THE BOLTS (ALTERNATE BOLTS IN ANY GROUP ARRANGEMENT) SHALL BE PROOF TESTED TO TWICE THE ALLOWABLE LOAD. IF THERE ARE FAILURES, THE IMMEDIATELY ADJACENT BOLTS MUST THEN ALSO BE TESTED.

& "HILTI" AND "RAMSET" ANCHORS ARE EQUAL SUBSTITUTES FOR "REDHEAD".

PIPE BRACING GENERAL NOTES

1 DETAILS SHOWN PROVIDE GENERAL GUIDELINES FOR A LATERAL BRACING SYSTEM. A TYPICAL VERTICAL SUPPORT SYSTEM MUST ALSO BE USED.

2 BRACE ALL PIPES 1-1/2" I.D. AND LARGER.

3 CABLE RESTRAINTS AND BRACING NOT TO EXCEED 30'-0" CENTERS AND SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION OF PIPE. ALL DROPS TO EQUIPMENT, AND ON EACH SIDE OF FLEXIBLE CONNECTIONS. BRACE POINTS SHALL NOT EXCEED 15'-0" FROM FLEXIBLE CONNECTION.

4 ALL HOLES IN ANGLES ARE TO BE 1/16 INCH OVERSIZED. PLACE STANDARD CUT WASHERS BETWEEN SHEET METAL ANGLES AND NUT.

5 EQUIPMENT WHICH ATTACHES TO THE PIPING SYSTEM SHALL BE BRACED INDEPENDENTLY OF THE PIPES.

6 ALL SHEET METAL FOR BRACING TO BE FY=33 KSI MINIMUM. GAUGE FOR SHEET METAL BRACING SHALL BE AS FOLLOWS:

16 GA = (0.0598 INCH)
14 GA = (0.0747 INCH)
12 GA = (0.1046 INCH)

7 MINIMUM DISTANCE FROM EDGE OF ANGLE TO BOLTS SHALL BE AS FOLLOWS:

BOLT DIAMETER	DISTANCE FROM EDGE
1/4" TO 1/2"	1"
5/8"	1 1/8"
3/4"	1 1/4"
7/8"	1 1/2"

8 DO NOT FASTEN RESTRAINT SYSTEM TO TWO DISSIMILAR PARTS OF A BUILDING THAT MAY RESPOND IN A DIFFERENT MODE DURING AN EARTHQUAKE. FOR EXAMPLE, A WALL AND A ROOF.

9 PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALLS OR FLOORS TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENTS.

10 DO NOT FASTEN ONE RIGID PIPING SYSTEM TO TWO DISSIMILAR PARTS OF A BUILDING THAT MAY RESPOND IN A DIFFERENT MODE DURING AN EARTHQUAKE. FOR EXAMPLE, A WALL AND A ROOF.

11 BRACING DETAILS, SCHEDULE AND NOTES ARE TO BE USED WITH THE FOLLOWING TYPES OF PIPE: STEEL PIPE SCHEDULE 40 AND 80, COPPER PIPE TYPE K,L,M (ONLY SILVER SOLDERED BRAZED JOINTS TO BE USED WITH COPPER PIPE).

12 FOR GAS PIPING, THE BRACING DETAILS, SCHEDULES AND NOTES MAY BE USED EXCEPT THAT RESTRAINTS SHALL BE INSTALLED AT EVERY 20'-0" O.C. ALSO ALL PIPE 1 INCH AND LARGER SHALL BE BRACED.

13 WASTE, VENT AND ROOF DRAINAGE PIPING SYSTEMS LARGER THAN 4"Ø SHALL BE RESTRAINED PER THE RESTRAINT GUIDELINES.

14 ALTERNATE EVERY OTHER CABLE RESTRAINT IN OPPOSITE DIRECTION (SHOWN DOTTED).

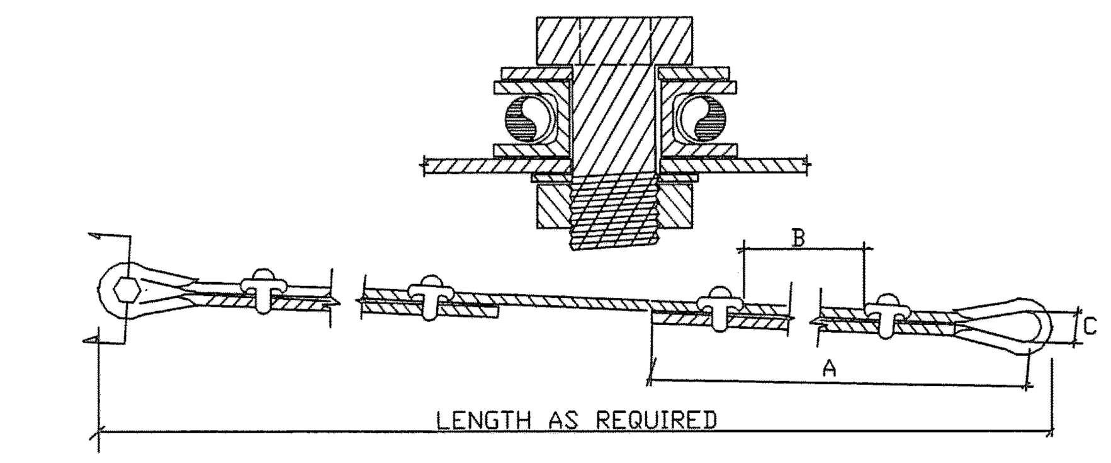
PIPE SEISMIC BRACING SCHEDULE

PIPE SIZE	HANGER ROD SIZE	MAX. ROD LENGTH	HANGER TYPE	BOLTS TO ANGLE	ANGLE CLIP	ANGLE BRACE	ANCHOR CONN. TYPE	ANCHOR BOLT OR INSERT
1-1/2"	1/2"	25"	CLEVIS	3/8"	3x3x1/4	2x2x16GA	I	3/8"
2"	1/2"	25"	CLEVIS	3/8"	3x3x1/4	2x2x16GA	I	3/8"
2-1/2"	5/8"	31"	CLEVIS	3/8"	3x3x1/4	2x2x16GA	I	3/8"
3"	5/8"	31"	CLEVIS	3/8"	3x3x1/4	2-1/2x2-1/2x 16 GA	II	1/2"
3-1/2"	5/8"	31"	CLEVIS	3/8"	3x3x1/4	2-1/2x2-1/2x 16 GA	II	1/2"
4"	3/4"	37"	CLEVIS	3/8"	3x3x1/4	2-1/2x2-1/2x 16 GA	II	1/2"
5"	3/4"	37"	CLEVIS	1/2"	5x3x1/2	2-1/2x2-1/2x 16 GA	III	3/4"
6"	3/4"	37"	CLEVIS	5/8"	5x3x1/2	2-1/2x2-1/2x 16 GA	IV	3/4"
8"	7/8"	43"	CLEVIS	5/8"	2-5x3x1/2	3x3x12 GA	V	2-5/8"
10"	7/8"	43"	CLEVIS	3/4"	2-5x3x1/2	3x3x12 GA	VI	2-5/8"

FOR ANCHOR CONNECTIONS SEE LIST.

SEE PIPE BRACING DETAIL

*1-5/8"x1-5/8"x12 GA CHANNEL MAY BE USED



NOTES:

1. CABLES, THIMBLES, CLIPS, GROMMETS & FLAT WASHERS ARE TO BE FURNISHED BY RESTRAINT MANUFACTURER. ALL OTHER HARDWARE TO BE PROVIDED BY CONTRACTOR.
2. ENTIRE SYSTEM TO BE EQUAL TO AMBER BOOTH.
3. CABLE CLIPS MUST BE ORIENTED AS SHOWN WITH SHORT END OF CABLE ON THE CURVED PART OF THE CLIP.

CABLE SCHEDULE

CABLE DIA.	CABLE DESIGN	A	B	C	BOLT SIZE	ALLOWABLE LOAD (lbf)	BREAKING STRENGTH (lbf)
1/8"	7X19 GALV.	5-1/4"	1-5/8"	5/8"	3/8"	660	2000
3/16"	7X19 GALV.	5-3/4"	1-7/8"	5/8"	3/8"	1400	4200
1/4"	7X19 GALV.	6-3/4"	2-3/8"	11/16"	3/8"	2330	7000
5/16"	7X19 GALV.	7-3/8"	2-5/8"	13/16"	5/8"	3260	9800
3/8"	7X19 GALV.	8-7/8"	3-1/4"	1"	5/8"	4800	14400
7/16"	6X19 IWRC	17"	3-5/8"	1"	5/8"	5920	17800
1/2"	6X19 IWRC	18"	3-7/8"	1-1/8"	3/4"	7660	23000

CABLE RESTRAINT DETAIL
NO SCALE
3
ME303

HANGING EQUIP. CABLE BRACING SCHEDULE

BOX WEIGHT	BOLT SIZE	*CABLE DIA.	**CABLE DESIGN	ANCHOR CONN. TYPE
UP TO 300#	3/8"	1/8"	7 X 19 GALV	I
400#	3/8"	1/8"	7 X 19 GALV	I
600#	3/8"	3/16"	7 X 19 GALV	II
800#	3/8"	3/16"	7 X 19 GALV	II

1. *FOUR CABLES REQUIRED, ONE AT EACH CORNER. EACH CABLE TO BE INSTALLED 45 TO HORIZONTAL AND 45 TO LONGITUDINAL DIRECTION.
2. **CABLE SYSTEMS TO BE EQUAL TO AMBER BOOT C/W THIMBLES, CLAMPS AND GROMMETS.

DUCT BRACING GENERAL NOTES

1 DETAILS SHOWN PROVIDE GENERAL GUIDELINES FOR A LATERAL BRACING SYSTEM. A TYPICAL VERTICAL SUPPORT SYSTEM MUST ALSO BE USED.

2 BRACE ALL RECTANGULAR DUCTS OF AREA 6 SQ. FT. AND LARGER. BRACE ALL ROUND DUCTS 28" IN DIAMETER AND LARGER.

3 CABLE RESTRAINTS AND BRACING NOT TO EXCEED 30'-0" CENTERS AND SHALL BE PROVIDED AT EACH TURN, AT THE END OF EACH DUCT RUN, AND ON EACH SIDE OF FLEXIBLE CONNECTIONS. BRACE POINTS SHALL NOT EXCEED 15'-0" FROM FLEXIBLE CONNECTION.

4 WHEN COMBINING DUCT GROUPS ON COMMON BRACING SYSTEMS, USE WEIGHTS AND DIMENSIONS FROM BRACING LIST.

5 ALL HOLES IN ANGLES ARE TO BE 1/16 INCH OVERSIZED. PLACE STANDARD CUT WASHERS BETWEEN SHEET METAL ANGLES AND NUT.

6 DUCTS NOT BRACED SHALL BE INSTALLED WITH A 6" MIN. CLEARANCE TO VERTICAL CEILING HANGER WIRES.

7 REHEAT BOXES AND OTHER ITEMS WHICH ATTACH TO THE DUCT SYSTEM SHALL BE BRACED INDEPENDENTLY OF THE DUCTS.

8 ALL SHEET METAL FOR BRACING TO BE FY = 33 KSI MINIMUM. GAUGE FOR SHEET METAL BRACING SHALL BE AS FOLLOWS:

16 GA = (0.0598 INCH)
14 GA = (0.0747 INCH)
12 GA = (0.1046 INCH)

9 MINIMUM DISTANCE FROM EDGE OF ANGLE TO BOLTS SHALL BE AS FOLLOWS:

BOLT DIAMETER	DISTANCE FROM EDGE
1/4" TO 1/2"	1"
5/8"	1 1/8"
3/4"	1 1/4"
7/8"	1 1/2"

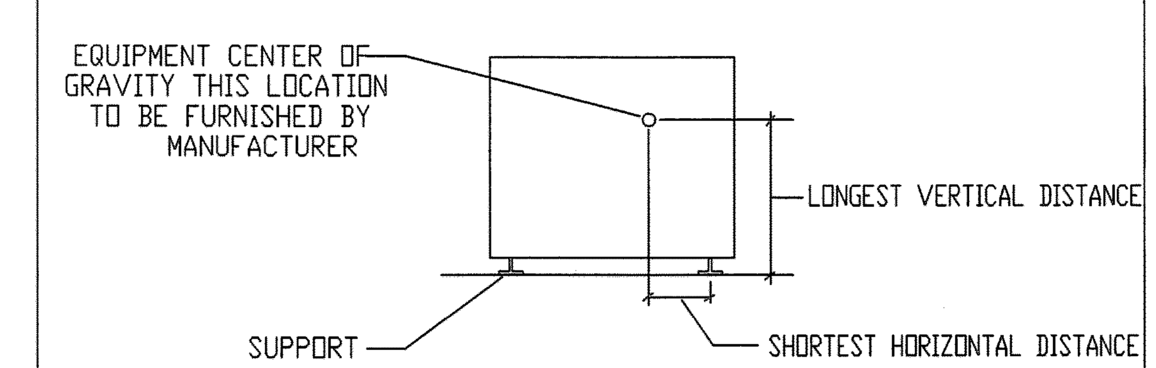
10 DO NOT FASTEN RESTRAINT SYSTEM TO TWO DISSIMILAR PARTS OF A BUILDING THAT MAY RESPOND IN A DIFFERENT MODE DURING AN EARTHQUAKE. FOR EXAMPLE, A WALL AND A ROOF.

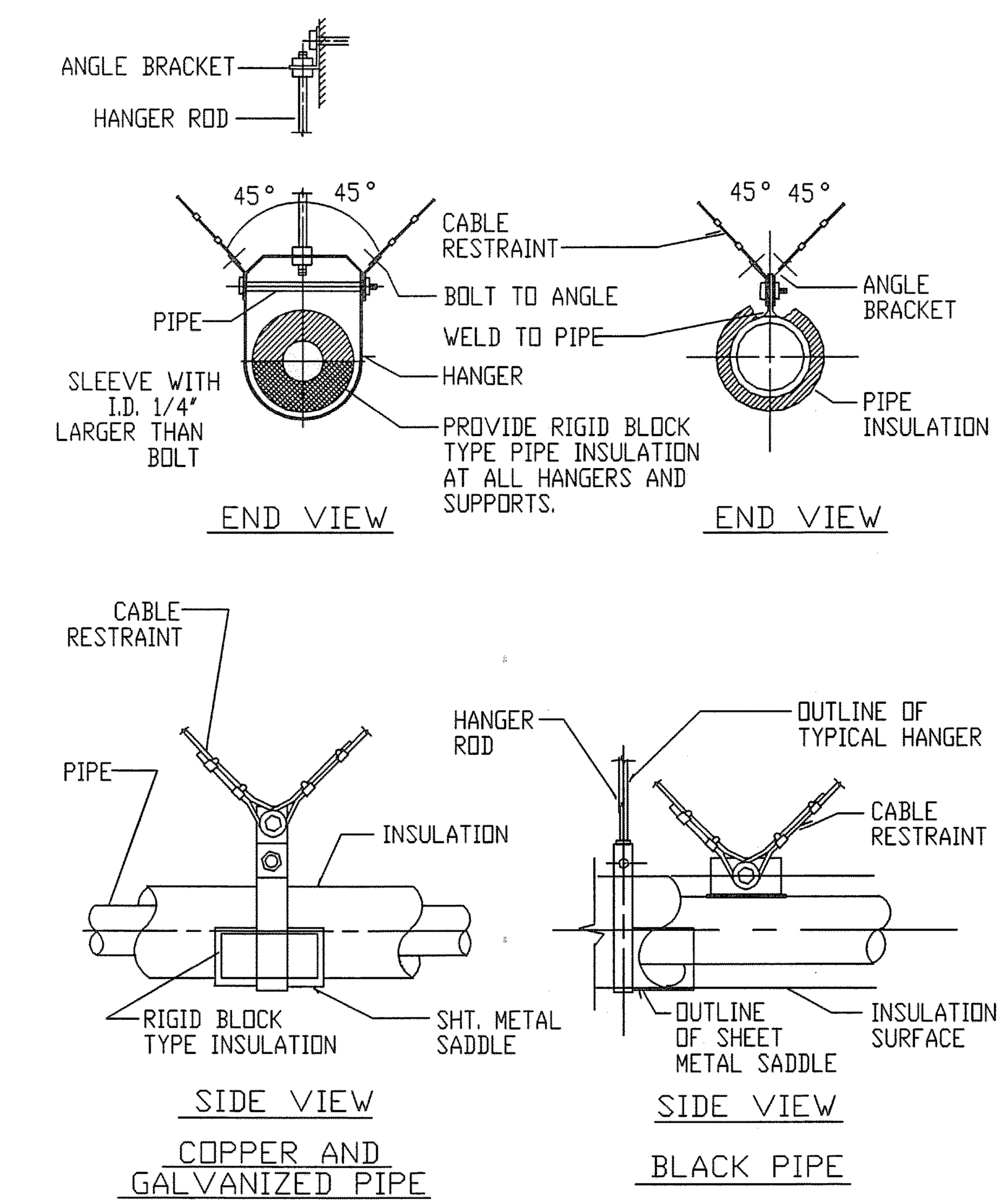
11 ALTERNATE EVERY OTHER CABLE RESTRAINT IN OPPOSITE DIRECTION (SHOWN DOTTED).

EQUIPMENT ANCHORAGE TO CONCRETE FLOOR LIST

EQUIPMENT WEIGHT PER ANCHOR BOLT	MINIMUM ANCHOR DIAMETER (INCHES)	MINIMUM DEPTH OF EMBEDMENT (INCHES)	ICBO ALLOWABLE SHEAR PER BOLT (LBF)	ICBO ALLOWABLE TENSION PER BOLT (LBF)
UP TO 150#	1/4"	1-1/2"	380	215
300#	3/8"	2-1/2"	860	355
600#	1/2"	3"	1710	665
900#	5/8"	4-1/2"	2500	855
1300#	3/4"	6"	3050	1585
2000#	1"	6"	6280	2020

1 THE SIZES AND EMBEDMENT ARE FOR ANCHORS INSTALLED IN STONE AGGREGATE CONCRETE HAVING A FC = 2000 PSI ULTIMATE COMPRESSIVE STRENGTH AT THE TIME OF INSTALLATION. ALL BOLTS ARE TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS AND TO BE INSTALLED NO CLOSER THAN 12 DIAMETERS ON CENTER AND WITH A MINIMUM EDGE DISTANCE OF 6 DIAMETERS.
2 EACH EQUIPMENT SUPPORT LEG WILL BE ANCHORED AND ALL EQUIPMENT WILL BE ANCHORED AT ALL CORNERS. A MINIMUM OF TWO ANCHORS WILL BE REQUIRED FOR ALL EQUIPMENT.
3 EQUIPMENT WEIGHT PER ANCHOR IS THE TOTAL OPERATING OF EQUIPMENT PLUS BASES AND SUPPORTS DIVIDED BY THE NUMBER OF ANCHORS.
4 ANCHORAGE IS TO PREVENT HORIZONTAL MOVEMENT, IF EQUIPMENT GEOMETRY IS SUCH THAT THE VERTICAL DISTANCE FROM SUPPORT LEG TO CENTER OF GRAVITY IS GREATER THAN FOUR TIMES THE SHORTEST DISTANCE FROM A SUPPORT LEG TO THE CENTER OF GRAVITY, ADDITIONAL ANCHORAGE AND RESTRAINTS WILL BE REQUIRED TO PREVENT OVERTURNING.





PIPING RESTRAINT DETAIL
NO SCALE
1
ME303

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Salt Lake City, UT 84111 801.530.3150 F
VBFA Project Number:9110

KEYED NOTES ⟨#⟩

1. ----

LICENSED PROFESSIONAL ENGINEER
CLIFFORD DEE HOLMES
08/12/09
NUMBER 309570
STATE OF UTAH

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
MECHANICAL DETAILS

REVISIONS	DATE	BY	DESCRIPTION
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△			

DRAWN BY: TJ
CHECKED BY: CDH
PROJECT NO. 08297840
DATE: JUNE 17, 2009
DRAWING NO. M302

Utah National Guard - Price Armory - Seismic Upgrade

EXHAUST FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR: MAXIMUM AIRFLOW RATE (CFM)	AIR: STATIC PRESSURE (IN. WATER)	FAN: FAN SPEED (RPM)	FAN: FAN WHEEL DIAMETER (IN)	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: LENGTH/ WIDTH/ HEIGHT (IN)	PHYSICAL: WEIGHT (LBS)	NOTES
EF-1	COOK #120C2B	WOMENS 111	ROOF	400	0.25	1151	12	1/6	120/1/60	29/229/28	55	1,2,3
EF-2	COOK #120C2B	MENS 112	ROOF	500	0.25	1151	12	1/6	120/1/60	29/229/28	55	1,2,3
EF-3	COOK #120C2B	MENS 112	ROOF	600	0.25	1151	12	1/6	120/1/60	29/229/28	55	1,2,3
EF-4	COOK #90C10DM	CUST./LAUNDRY 118	ROOF	100	0.25	1100	-	1/25	120/1/60	19/19/17	28	1,2,3

1. SPUN ALUMINUM, ROOF MOUNTED, BELT DRIVEN, DOWNBLAST CENTRIFUGAL
2. PROVIDE WITH DISCONNECT.
3. CONTROL BY BUILDING ENERGY MANAGEMENT SYSTEM. SEE SPECIFICATIONS.

AIR HANDLER

ID	MANUFACTURER AND MODEL NUMBER	SUPPLY FAN: AIRFLOW RATE (CFM)	SUPPLY FAN: EXTERNAL STATIC PRESSURE (IN. WATER)	SUPPLY FAN: FAN SPEED (RPM)	SUPPLY FAN: FACE VELOCITY (FPM)	HEATING COIL 1: HEATING LOAD (MBH)	HEATING COIL 1: ENTERING/ LEAVING DRY BULB (F)	HEATING COIL 1: STEAM PRESSURE (PSI)	HEATING COIL 1: STEAM FLOW RATE (LB/HR)	ELECTRICAL: TOTAL MCA	ELECTRICAL: TOTAL MOCP	ELECTRICAL: FAN H.P.	ELECTRICAL: SINGLE POINT VOLT/PH/HZ	PHYSICAL DIMENSIONS LxWxH (IN)	WEIGHT (LBS)	MINIMUM OUTSIDE AIR (CFM)	NOTES
AH-1,2	CARRIER 39MJ	2,400	0.25	1208	424	204	5/102	10	214	4.8	15	1	208/230/3/60	138x46x39	1741	800	1,2,3,4,5

1. SELECTION BASED ON 5600 FT.
2. PROVIDE WITH R-13 DOUBLE WALL SEALED PANELS; REAR OUTSIDE AIR INLET PREMIUM OPPOSED BLADE DAMPER, BOTTOM RETURN AIR PREMIUM PARALLEL DAMPER.
PROVIDE RETURN AIR AND OUTSIDE AIR DAMPERS WITH ELECTRONIC ACTUATORS, REMOTE CO2 SENSOR, THERMOSTAT.
3. PROVIDE WITH MIXING BOX WITH 2" FILTER ANGLED FRAME, PLEATED FILTERS.
4. PROVIDE FACTORY START-UP AND SERVICE.

STEAM UNIT HEATER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	AIR: AIRFLOW RATE (CFM)	AIR: LOAD (BTU/H)	AIR: ENTERING TEMP. DB (°F)	AIR: LEAVING TEMP. DB (°F)	STEAM: WORKING PRESSURE (PSI)	ELECTRICAL: MOTOR SIZE (HP)	ELECTRICAL: MOTOR SPEED (RPM)	ELECTRICAL: VOLT/PH/HZ	PHYSICAL: DIMENSIONS (IN) HxWxD	PHYSICAL: WEIGHT (LBS)	NOTES
UH-1, 2, 3	MODINE HSB-47	GARAGE 01	883	56870	50	119	10	1/12	1550	120/1/60	17x18x9	36	

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
CEILING	EH PRICE	SCDA	30	LOUVER FACE (4-CONE) CEILING DIFFUSERS. ADJUSTABLE AIR PATTERN, C.W./O.B.D. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. PROVIDE ROUND NECK ADAPTER.
RETURN/ EXHAUST	EH PRICE	PDR	30	EXTRUDED ALUMINUM, PERFORATED FACE RETURN AIR UNIT, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. AIR QUANTITY SHALL MATCH ROOM SUPPLY OR EXHAUST AIR QUANTITY.
AIR HANDLER SUPPLY	EH PRICE	HCD1	33	HIGH CAPACITY DRUM LOUVER; EXTRUDED ALUMINUM VANES AND CURVED OUTER DRUM; FRAME AND DRUM VANES ALUMINUM CONSTRUCTION. BORDER STYLE 1 1/4" FLAT SURFACE; COUNTERSUNK SCREWHOLES; ADJUSTABLE VANES WITHIN ROTATABLE DRUM, DRUM ADJUSTABLE THROUGH 60 DEGREES. OPPOSED BLADE STEEL DAMPER. ADJUST BLADES AND DRUM FOR MAXIMUM COVERAGE.

PACKAGED ROOFTOP UNIT SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	SUPPLY FAN: AIRFLOW RATE (CFM)	SUPPLY FAN: EXTERNAL STATIC PRESSURE (IN. WATER)	HEATING SECTION: HEATING LOAD (BTU/H)	HEATING SECTION: AFUE	HEATING SECTION: FUEL	COOLING SECTION: COOLING LOAD (BTU/H)	COOLING SECTION: COOLING LOAD (TONS)	COOLING SECTION: EER	COOLING SECTION: SEER	ELECTRICAL: TOTAL MCA	ELECTRICAL: TOTAL MOCP	ELECTRICAL: SINGLE POINT VOLT/PH/HZ	PHYSICAL DIMENSIONS LxWxH (IN)	WEIGHT (LBS)	MINIMUM OUTSIDE AIR (CFM)	NOTES
RTU-1	CARRIER 48PG	2000	0.5	151,000	81%	NAT. GAS	58,500	5	12	-	34.9	50	208/230/3/60	90x48x44	921	60	1,2,3,4,5,6
RTU-2	CARRIER 48PG	2000	0.5	113,000	81%	NAT. GAS	58,500	5	12	-	34.9	50	208/230/3/60	90x48x44	921	60	1,2,3,4,5,6
RTU-3	CARRIER 48PG	2000	0.5	113,000	81%	NAT. GAS	58,500	5	12	-	34.9	50	208/230/3/60	90x48x44	921	60	1,2,3,4,5,6
RTU-4	CARRIER 48PG	1600	0.5	75,000	81%	NAT. GAS	47,500	4	12	14.6	30.7	45	208/230/3/60	90x48x44	901	60	1,2,3,4,5
RTU-5	CARRIER 48PG	1200	0.5	51,000	81%	NAT. GAS	35,800	3	11.7	14	26.5	30	208/230/3/60	90x48x44	786	60	1,2,3,4,5

1. SELECTION BASED ON 5600 FT.
2. PROVIDE WITH THRU-THE-BASE CONNECTIONS
3. PROVIDE WITH POWERED CONVENIENCE OUTLET AND NON-FUSED DISCONNECT.
4. PROVIDE WITH CO2 SENSOR CONTROLLED ECONOMIZER AND POWER EXHAUST.
5. PROVIDE WITH WINTER START KIT AND LOW AMBIENT OPERATION DOWN TO 0 DEG. F..
6. PROVIDE WITH RETURN AIR SMOKE DETECTOR.

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KEYED NOTES #

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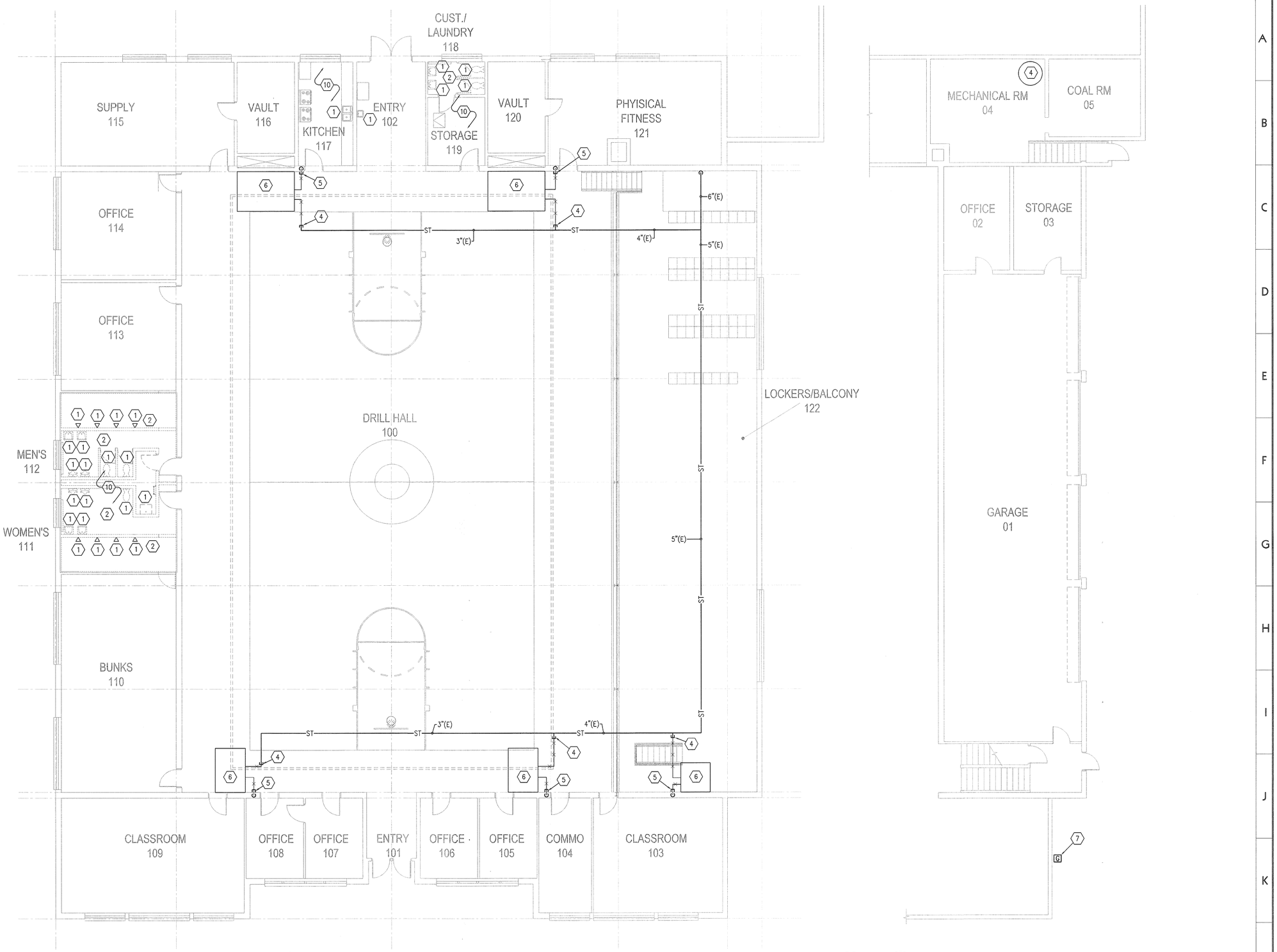
CHECKED BY CDH
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. M401

Utah National Guard - Price Armory - Seismic Upgrade



1ST FLOOR PLUMBING DEMOLITION PLAN
P101
SCALE: 1/8" = 1'-0"

0' 8' 16'

BASEMENT PLUMBING DEMOLITION PLAN
P101
SCALE: 1/8" = 1'-0"

0' 8' 16'

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KEYED NOTES (#)

1. EXISTING PLUMBING FIXTURE SHALL BE REMOVED IN IT'S ENTIRETY. CAP PIPING BELOW FLOOR AND ABOVE CEILING.
2. REMOVE EXISTING FLOOR/TRENCH DRAIN. CAP PIPING ABOVE CEILING AND/OR BELOW FLOOR.
3. EXISTING GAS FIRED WATER HEATER AND RE-CIRCULATING PUMP TO REMAIN.
4. CAP EXISTING STEAM PIPING IN THIS AREA AND REMOVE DOWN STREAM PIPING IN IT'S ENTIRETY.
5. CAP EXISTING STEAM CONDENSATE PIPING BEHIND WALL AND ABANDON. PATCH AND REPAIR WALL.
6. COORDINATE REMOVAL OF EXISTING AIR HANDLING UNIT WITH MECHANICAL CONTRACTOR.
7. EXISTING GAS METER TO REMAIN.
8. REMOVE EXISTING WATER, WASTE AND VENT PIPING UNDER FLOOR. REPLACE WITH NEW.

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SHEET TITLE
PLUMBING DEMOLITION PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
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DRAWN BY: TJ
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DRAWING NO.: P101

Utah National Guard - Price Armory - Seismic Upgrade

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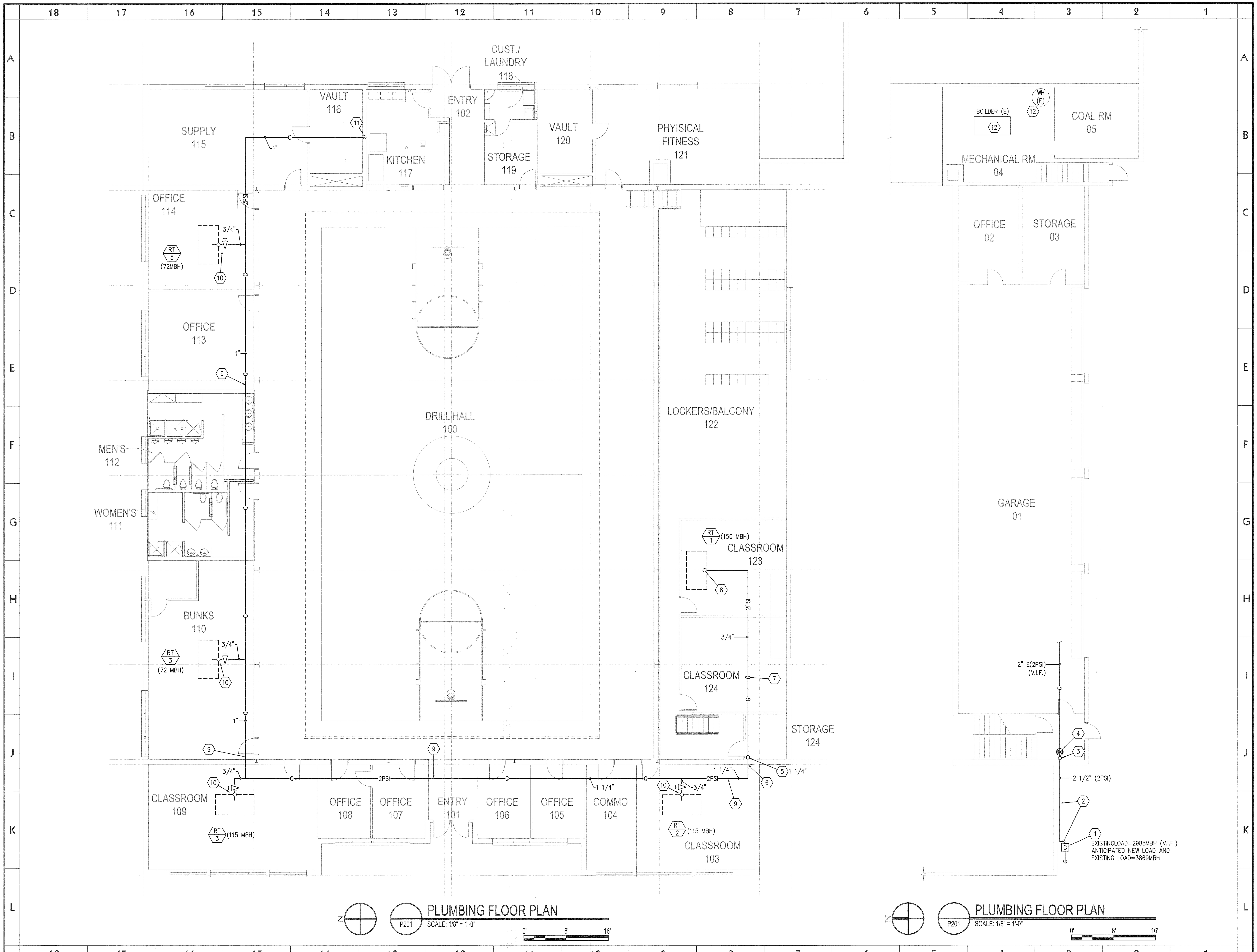

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KEYED NOTES

1. EXISTING GAS METER TO REMAIN. VERIFY WITH GAS COMPANY THAT EXISTING METER WILL HAVE SUFFICIENT CAPACITY TO CARRY EXISTING LOAD AND NEW LOAD. FIELD VERIFY EXISTING LOADS.
2. FROM GAS METER INSTALL NEW GAS LINE INTO BUILDING.
3. RISE IN STAIRWAY TO LEVEL ABOVE WITH GAS LINE.
4. MAKE CONNECTION OF NEW GAS PIPING TO EXISTING GAS PIPING IN THIS AREA. CONFIRM EXACT LOCATION AND PIPE SIZE.
5. RISE FORM BELOW TO CEILING SPACE OF THIS LEVEL WITH NEW GAS LINE.
6. PROVIDE TEE IN GAS RISER AT LOWER ROOF LEVEL. EXTEND NEW GAS PIPING THRU WALL OUT TO LOWER ROOF. CORE-DRILL WALL AS REQUIRED. SEAL WALL PENETRATION AGAINST WEATHER. PROVIDE ESCUTCHEON.
7. RUN NEW GAS PIPING AT CEILING OF THIS LEVEL IN TRUSSES.
8. RISE INSIDE CURB TO ROOFTOP UNIT AND MAKE CONNECTION TO UNIT THRU SHUT OFF VALVE, FLEX CONNECTOR AND UNION. PROVIDE GAS PRESSURE REGULATOR AT UNIT TO REGULATE GAS PRESSURE FROM 2 PSI TO 8" W.C.
9. RUN NEW GAS PIPING ON LOWER ROOF. SUPPORT PIPING AS SPECIFIED. NO WOOD BLOCKING ALLOWED.
10. MAKE CONNECTION TO ROOFTOP UNIT THRU SHUT OFF VALVE, FLEX CONNECTOR AND UNION. PROVIDE DIRT LEG AT CONNECTION. PROVIDE GAS PRESSURE REGULATOR AT UNIT TO REGULATE GAS PRESSURE FROM 2 PSI TO 8: W.C. SEE DETAIL.
11. DROP THRU ROOF WITH GAS LINE IN WALL BELOW. MAKE CONNECTION TO GAS APPLIANCE(S) THRU SHUT OFF VALVE, FLEX CONNECTOR AND UNION. V.I.F. EXACT LOCATION. SEAL ROOF PENETRATION PER ROOFING CONTRACTOR. PROVIDE GAS PRESSURE REGULATOR ON ROOF TO REGULATE GAS PRESSURE FROM 2 PSI TO 8" W.C.
12. VERIFY EXISTING BOILER AND WATER HEATER HAVE PROPER GAS PRESSURE REGULATOR INSTALLED. IF NOT PROVIDE NEW PRESSURE REGULATORS TO REGULATE GAS PRESSURE FROM 2PSI TO 8"W.C.

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584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
PLUMBING FLOOR PLANS

REVISIONS	DATE	BY	DESCRIPTION
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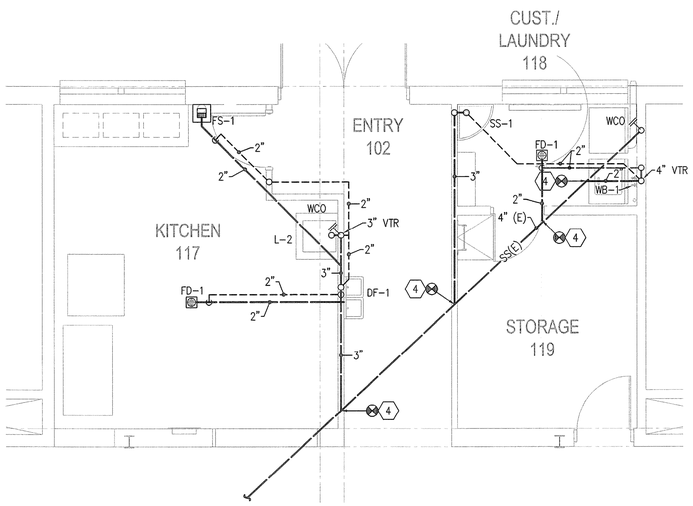
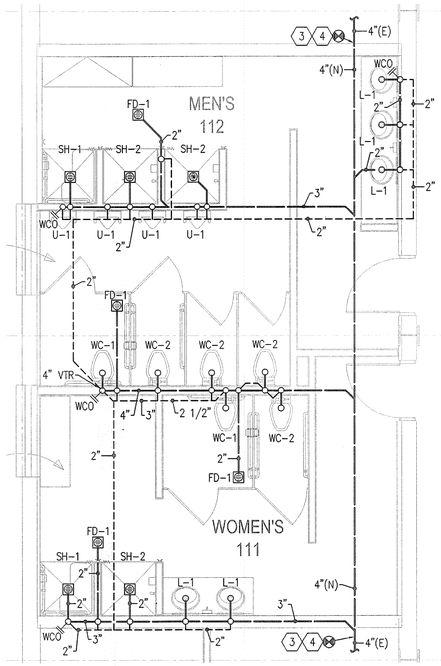
DRAWN BY TJ	CHECKED BY CDH
PROJECT NO. 08297840	DRAWING NO. P201
DATE JUNE 17, 2009	

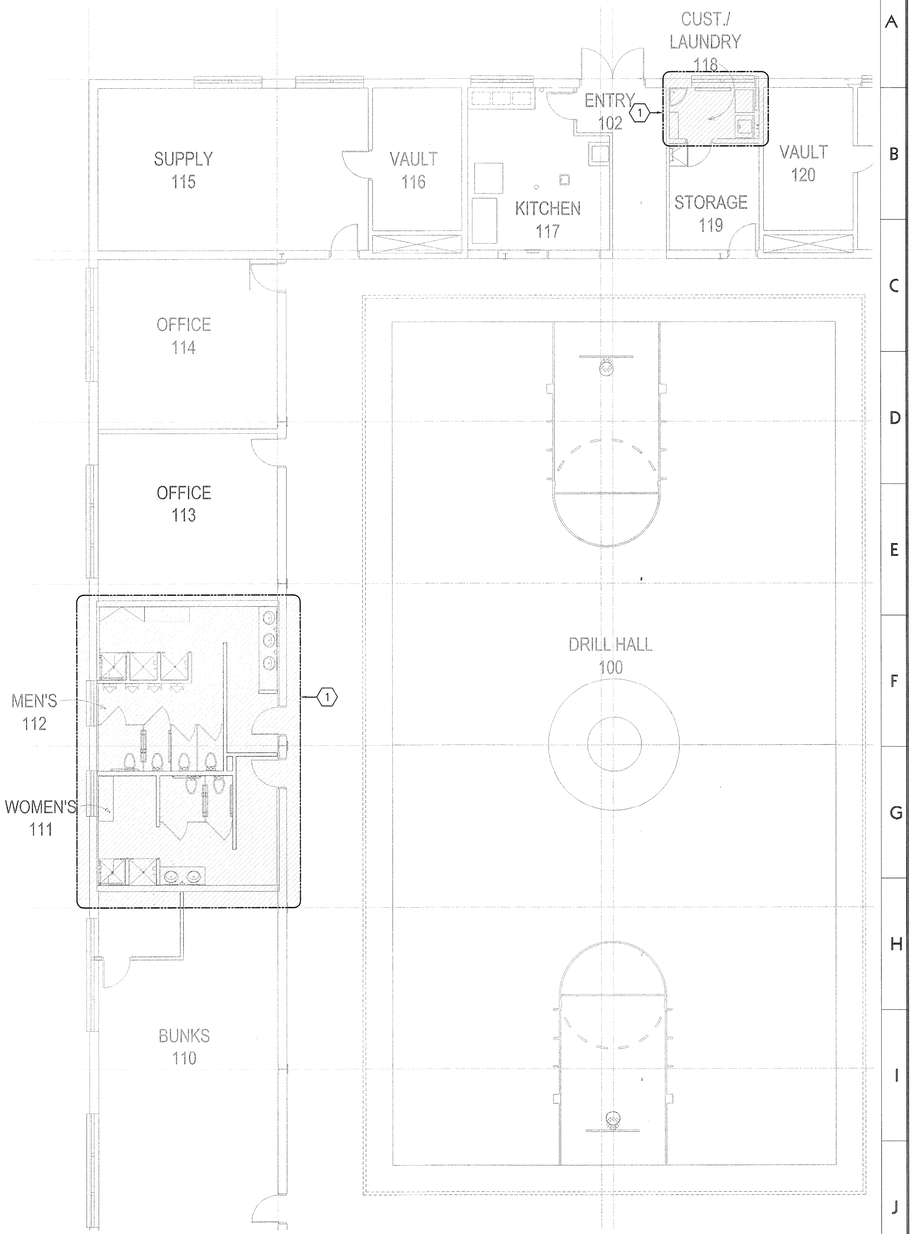
Utah National Guard - Price Armory - Seismic Upgrade



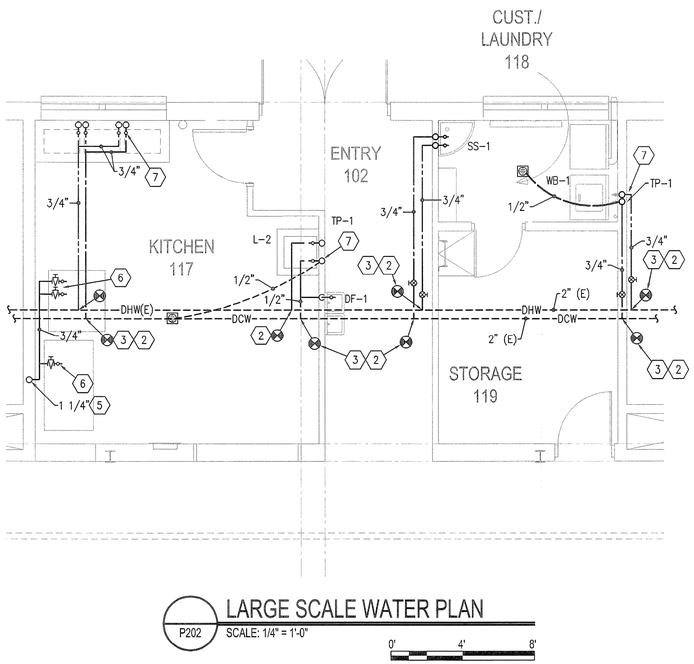
P202 LARGE SCALE WASTE & VENT PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'



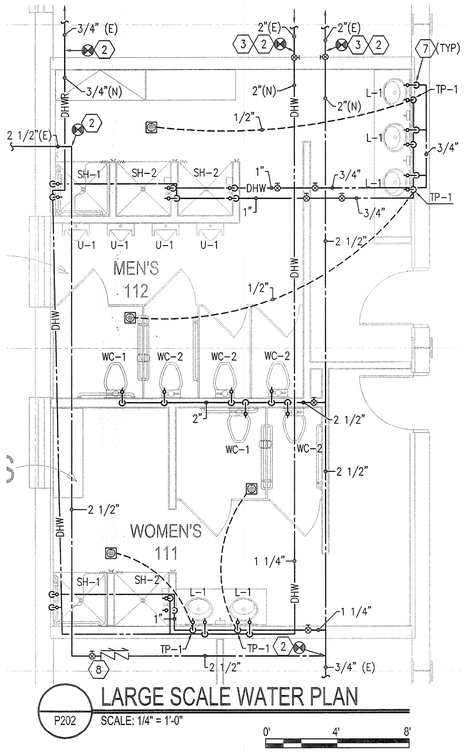
P202 LARGE SCALE WASTE & VENT PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'



P202 PLUMBING FLOOR PLAN
SCALE: 1/8" = 1'-0"
0' 8' 16'



P202 LARGE SCALE WATER PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'



P202 LARGE SCALE WATER PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'

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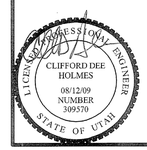
KEYED NOTES (#)

1. FOR PIPING IN THIS ARE SEE LARGE SCALE PLUMBING PLANS.
2. MAKE DOMESTIC HOT, HOT WATER RETURN AND COLD WATER CONNECTION TO EXISTING PIPING IN THIS AREA. CONFIRM EXACT LOCATIONS.
3. RUN ALL NEW PIPING FROM POINT OF CONNECTION TO NEW FIXTURES.
4. MAKE CONNECTION TO EXISTING SANITARY SEWER IN THIS AREA. CONFIRM EXACT LOCATION.
5. DROP FROM ROOF WITH NEW GAS LINE IN WALL.
6. MAKE GAS CONNECTION TO OWNER PROVIDED GAS EQUIPMENT IN THIS AREA. CONFIRM EXACT LOCATION. MAKE CONNECTION THRU SHUT OFF VALVE, UNION AND FLEXIBLE CONNECTOR.
7. RISE FROM BELOW WITH WATER LINES TO MAKE WATER CONNECTIONS TO FIXTURE.
8. MAIN BUILDING SHUTOFF VALVE AND BACKFLOW PREVENTER TO BE LOCATED UNDER HATCH. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.



Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
PLUMBING FLOOR PLAN & ENLARGED PLANS

REVISIONS	DATE	BY	DESCRIPTION
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DRAWN BY TJ | CHECKED BY CDH
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. P202

Utah National Guard - Price Armory - Seismic Upgrade

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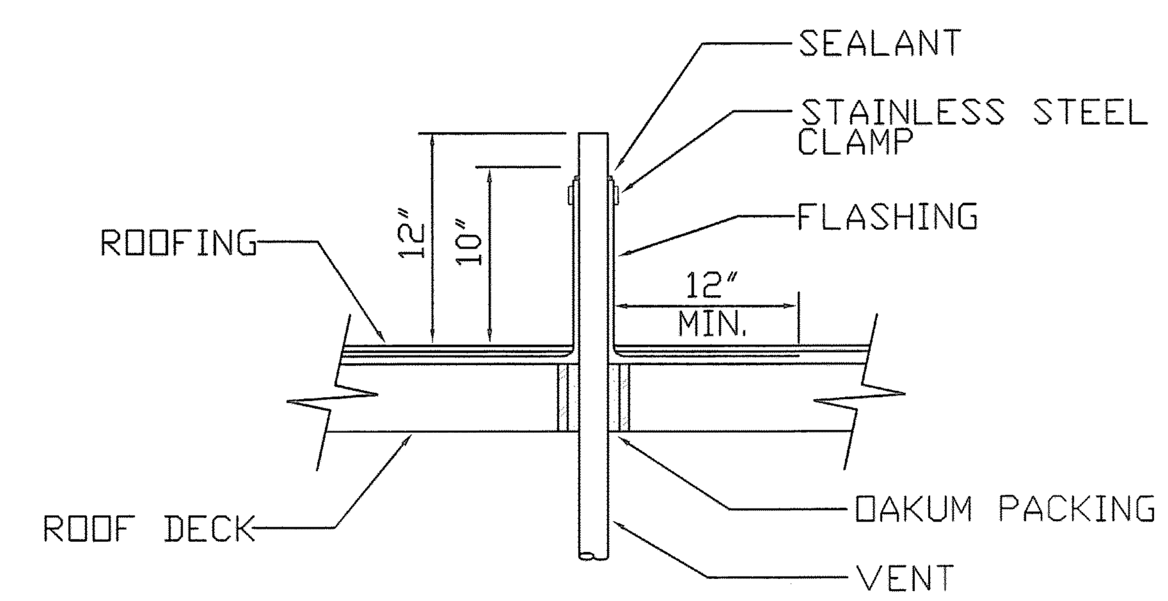
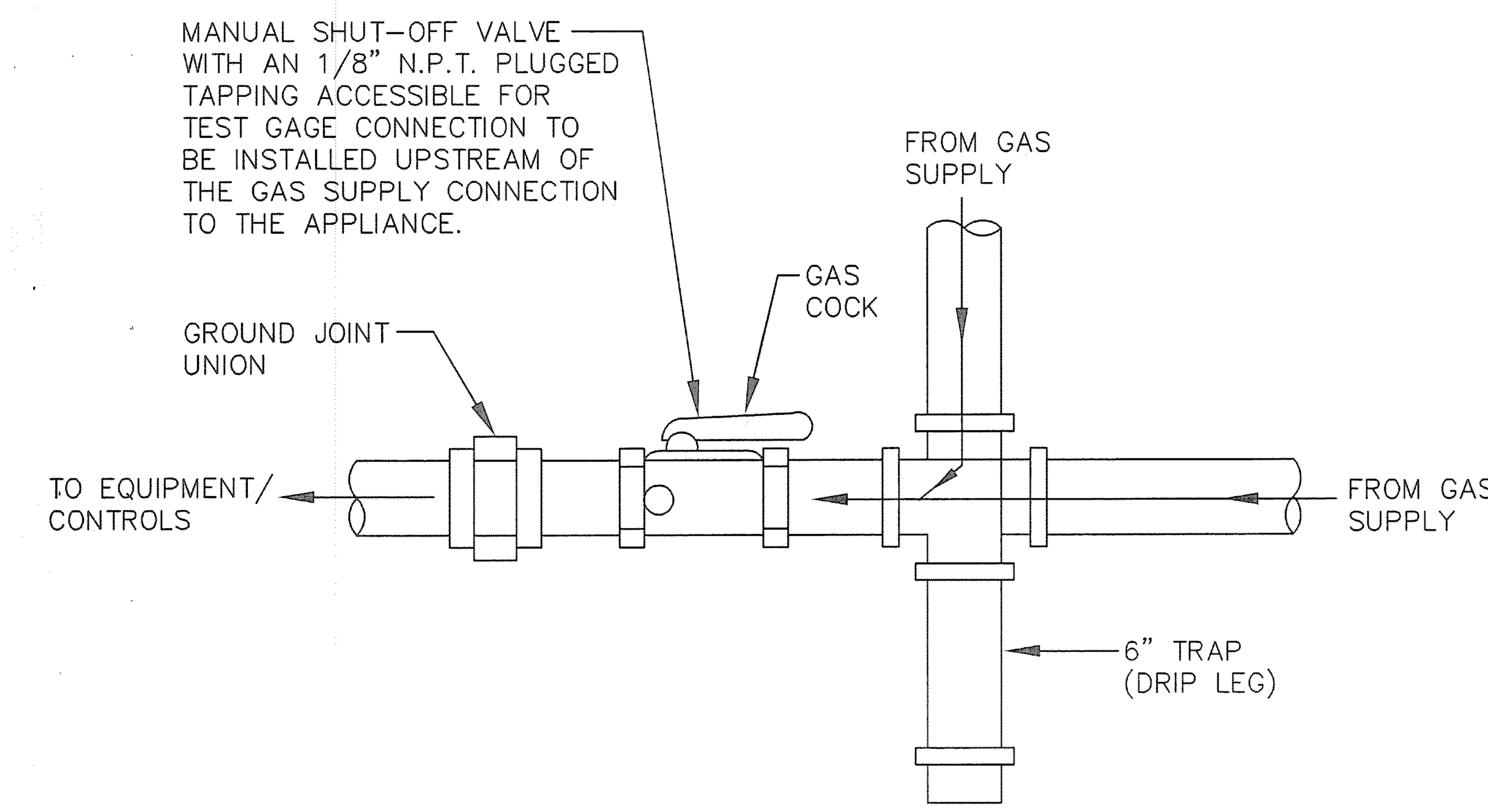
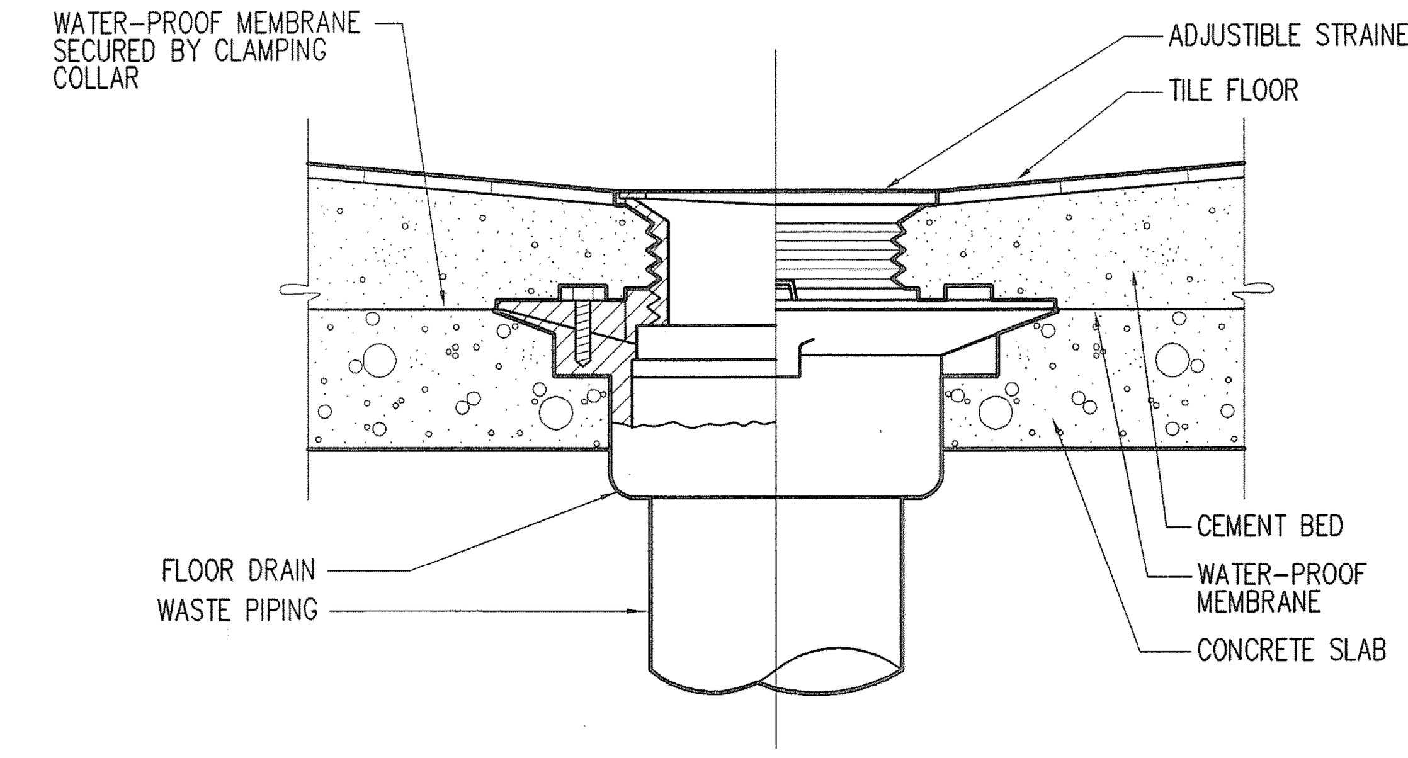


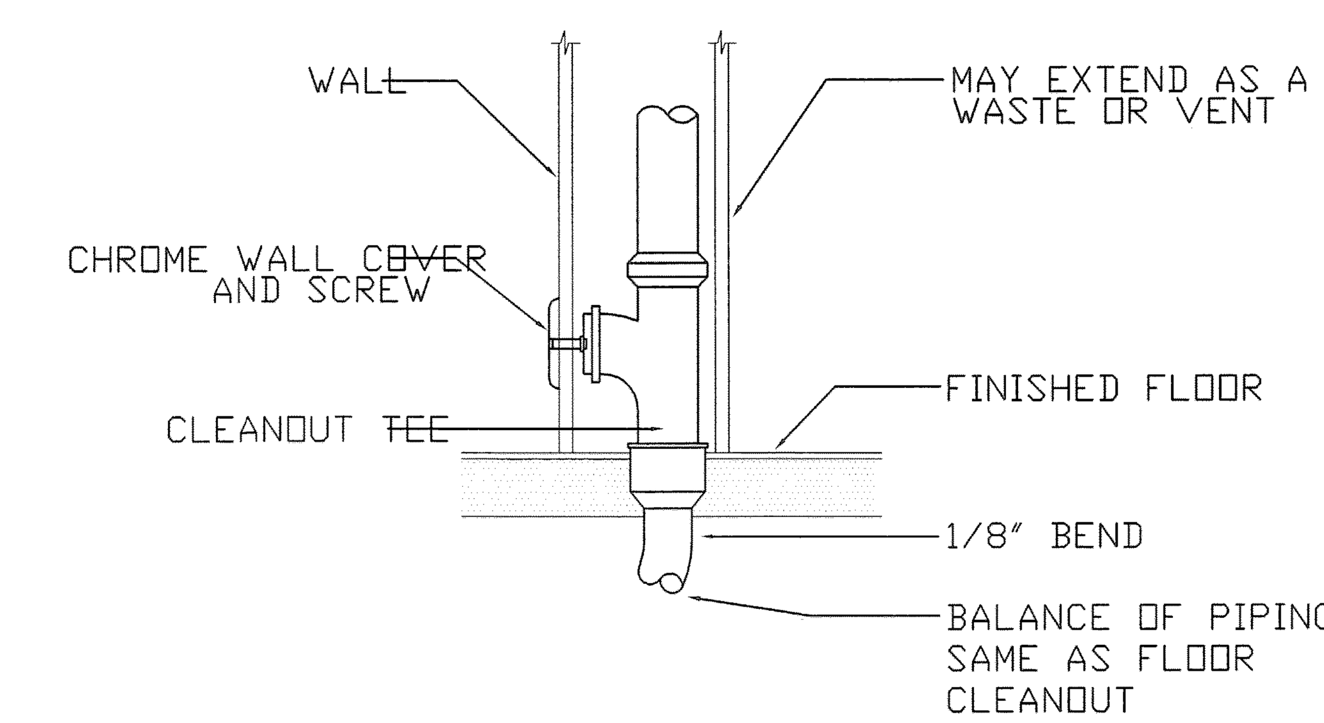
5 / P301 **VENT THRU ROOF FLASHING & SLEEVING DETAIL**
NO SCALE



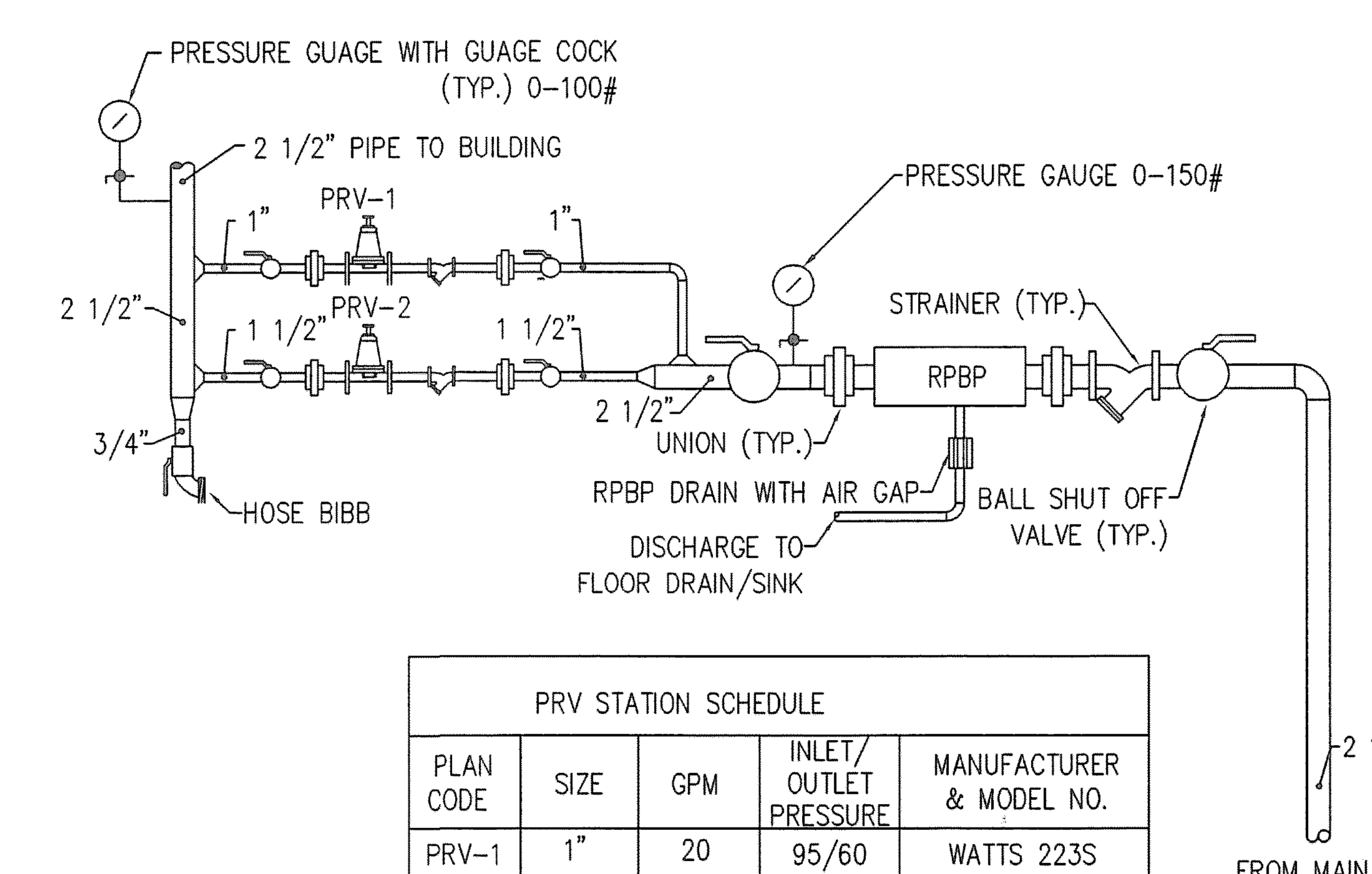
4 / P301 **GAS CONNECTION DETAIL**
NO SCALE



1 / P301 **FLOOR / SHOWER DRAIN DETAIL**
NOT TO SCALE



2 / P301 **WALL CLEANOUT DETAIL**
NO SCALE



PRV STATION SCHEDULE

PLAN CODE	SIZE	GPM	INLET/ OUTLET PRESSURE	MANUFACTURER & MODEL NO.
PRV-1	1"	20	95/60	WATTS 223S
PRV-2	1 1/2"	45	95/60	WATTS 223S
RPBP	2"	65	–	WATTS 009

3 / P301 **PRV STATION DETAIL**
NO SCALE

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	CW (IN)	HW (IN)	W (IN)	V (IN)	NOTES	SPECIFICATIONS
EWC-1	ELECTRIC WATER COOLER	1/2	1/2	1 1/2	1 1/2	ADA, DUAL STATION	ELECTRIC WATER COOLER: ELKAY EZTLR8C DUAL STATION, WALL MOUNTED, BARRIER FREE, ADA ELECTRIC WATER COOLER WITH FLEXIBLE BUBBLER GUARD AND STAINLESS STEEL BOWLS. COMPRESSOR TO BE 115V, 60 HZ WITH CAPACITY TO DELIVER AT LEAST 8.0 GPH OF 50□F WATER. 1-?" CAST BRASS CHROME-PLATED P-TRAPS. PROVIDE GLASS FILLER OPTION. ADA SIDE TO BE ON THE LEFT.
FD-1	FLOOR DRAIN	-.-	-.-	2	2	RESTROOM	FLOOR DRAIN: SMITH FIGURE 2010-BP CAST IRON BODY AND FLASHING COLLAR WITH SQUARE NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED SQUARE HOLE GRATE AND TRAP PRIMER CONNECTION.
FS-1	FLOOR SINK	-.-	-.-	2	1 1/2	-.-	FLOOR SINK: SMITH FIGURE 3100Y CAST IRON FLANGED RECEPTOR WITH ACID RESISTANT INTERIOR COATING, NICKEL BRONZE RIM AND SECURED GRATE AND ALUMINUM DOME BOTTOM STRAINER.
L-1	LAVATORY	1/2	1/2	1 1/2	1 1/2	COUNTER MOUNTED, SENSOR FAUCET	LAVATORY (COUNTER MOUNTED): KOHLER K-2196-4 PENNINGTON SELF RIMMING VITREOUS CHINA OVAL LAVATORY WITH 4" FAUCET CENTERS; K-7715 OPEN GRID STRAINER; TECHNICAL CONCEPTS 500484 MILANO BATTERY POWERED SENSOR FAUCET. FAUCET TO BE PROVIDED WITH FACTORY MIXING VALVE WITH 3/8" COMPRESSION CONNECTIONS AND IN-LINE CHECKS. PROVIDE WATTS NO. 7 DUAL CHECKS IN HOT AND COLD SUPPLIES. PROVIDE VANDAL RESISTANT AERATOR. PROVIDE LOOSE KEY ANGLE STOPS AND CHROME PLATED COPPER SUPPLIES AND 17 GA. CAST BRASS, CHROME PLATED "P" TRAP. COVER ALL EXPOSED PIPING WITH WHITE "HANDI-LAV GUARD" PROTECTOR AS NEEDED TO MEET ADA REQUIREMENTS.
L-2	LAVATORY	1/2	1/2	1 1/2	1 1/2	WALL HUNG, SENSOR FAUCET	LAVATORY (WALL HUNG): KOHLER K-2032 GREENWICH 20" X 18", "D" SHAPED BOWL, VITREOUS CHINA, WALL-MOUNT LAVATORY WITH DUAL FRONT OVERFLOW, 4" FAUCET CENTERS; K-7715 OPEN GRID STRAINER; TECHNICAL CONCEPTS 500484 MILANO BATTERY POWERED SENSOR FAUCET. FAUCET TO BE PROVIDED WITH FACTORY MIXING VALVE WITH 3/8" COMPRESSION CONNECTIONS AND IN-LINE CHECKS. PROVIDE WATTS NO. 7 DUAL CHECKS IN HOT AND COLD SUPPLIES. PROVIDE VANDAL RESISTANT AERATOR. PROVIDE LOOSE KEY ANGLE STOPS AND CHROME PLATED COPPER SUPPLIES AND 17 GA. CAST BRASS, CHROME PLATED "P" TRAP. COVER ALL EXPOSED PIPING WITH WHITE "HANDI-LAV GUARD" PROTECTOR TO MEET ADA REQUIREMENTS.
SH-1	SHOWER	1/2	1/2	2	2	ADA	SHOWER: SYMMONS BP-500-B30-V TEMPTROL II SHOWER SYSTEM WITH PRESSURE BALANCING MIXING VALVE WITH LEVER HANDLE, ADJUSTABLE STOP SCREW, INTEGRAL SERVICE STOPS, LEVER DIVERTER VALVE, WALL/HAND SHOWER WITH FLEXIBLE METAL HOSE, IN-LINE VACUUM BREAKER, WALL CONNECTION AND FLANGE, 30" SLIDE BAR FOR HAND SHOWER AND OXYGENICS MODEL 630 1.5 GPM SHOWER HEAD; SMITH 2005Y-A-NB ROUND TOP DRAIN WITH 6" NICKEL BRONZE STRAINER, CAST-IRON BODY, 2" OUTLET AND NO-HUB CONNECTION.
SH-2	SHOWER	1/2	1/2	2	2	-.-	SHOWER: SYMMONS BP-56-1 TEMPTROL II SHOWER SYSTEM WITH RESSURE BALANCING MIXING VALVE WITH LEVER HANDLE, ADJUSTBABLE STOP SCREW, INTEGRAL SERVICE STOPS AND 2.5 GPM CLEAR-FLO SHOWER HEAD WITH ARM AND FLANGE; SMITH FIGURE 2005Y FLOOR DRAIN WITH CAST IRON BODY AND FLASHING COLLAR WITH ROUND NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED GRATE.
SS-1	SERVICE SINK	3/4	3/4	3	2	-.-	JANITOR SINK (FLOOR MOUNTED, CORNER): KOHLER K6710, WHITBY, 28 X 28-INCH, ENAMELED CAST IRON FLOOR-MOUNTED CORNER MODEL, K9146-3" DRAIN WITH STRAINER, NO. K8940 REMOVABLE VINYL-COATED RIM GUARD; CHICAGO 897 FAUCET WITH VACUUM BREAKER, SCREWDRIVER STOPS IN SHANKS, 5 FOOT RUBBER HOSE AND WALL HOOK, 853.
TP-1	TRAP PRIMER	1/2	-.-	-.-	-.-	SINK TAILPIECE TYPE	TRAP PRIMER: PRECISION PLUMBING PRODUCTS, INC. (PPP) LTP-1500 TAIL PIECE TRAP PRIMING ASSEMBLY WITH 1-1/2" TAIL PIECE AND 1/2" STAINLESS STEEL FLEXIBLE MAKE UP WATER LINE AND 1/2" COPPER TUBE CONNECTION TO FLOOR DRAIN P-TRAP, INSTALL PER MANUFACTURER'S INSTRUCTIONS.
TP-2	TRAP PRIMER	1/2	-.-	-.-	-.-	PISTON TYPE	TRAP PRIMER: PRECISION PLUMBING PRODUCTS, INC. (PPP) P-1 TRAP PRIMING ASSEMBLY AND DISTRIBUTION UNIT DU-U. 1/2" COPPER TUBE CONNECTION TO FLOOR DRAIN P-TRAP, INSTALL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ACCESS COVER.
U-1	URINAL	3/4	-.-	2	2	WALL HUNG, SENSOR FLUSH VALVE	URINAL: KOHLER K-5016-ET VITREOUS CHINA ADA URINAL WITH ?" TOP SPUD; SLOAN OPTIMA SMO REGAL MODEL 186-0.5-SMO EXPOSED, BATTERY POWERED, SIDE MOUNT SENSOR OPERATED, 0.5 GPF FLUSH VALVE. SMITH 0637 URINAL SUPPORT. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
WB-1	WASHER BOX	3/4	3/4	2	1 1/2		WASHER BOX: WATER-TITE 82064 WASHING MACHINE OUTLET BOX WITH 2 CHORME QUARTER TURN BALL VALVES WITH ?" SWEAT CONNECTION AND 2" CENTER DRAIN.
WC-1	WATER CLOSET	1	-.-	4	2	FLOOR MOUNTEDFLUSH VALVE (ADA)	WATER CLOSET: KOHLER K-4368 HIGHCLIFF (17-1/2") VITREOUS CHINA, FLOOR MOUNTED, ELONGATED BOWL WITH K-4670-C LUSTRA OPEN FRONT SEAT; SLOAN No. 8111 LOW CONSUMPTION 1.6 G.P.F., EXPOSED, BATTERY POWERED, SENSOR OPERATED, FLUSH VALVE.
WC-2	WATER CLOSET	1	-.-	4	2	FLOOR MOUNTED, SENSOR FLUSH VALVE	WATER CLOSET: KOHLER K-4350 WELCOMME VITREOUS CHINA, FLOOR MOUNTED, ELONGATED BOWL TOILET WITH K-4670-C LUSTRA OPEN FRONT SEAT; SLOAN No. 8111-LOW CONSUMPTION EXPOSED, BATTERY POWERED, SIDE MOUNT SENSOR OPERATED, 1.6 GPF FLUSH VALVE; INSTALL ACTUATOR ON WIDE SIDE OF FIXTURE.

1. ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER PER DRAWINGS.

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KEYED NOTES #

1. ----

LICENSED PROFESSIONAL ENGINEER — CLIFFORD DEE HOLMES — 08/12/09 — NUMBER 309570 — STATE OF UTAH

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
PLUMBING DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY: TJ
CHECKED BY: CDH
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: P301

Utah National Guard - Price Armory - Seismic Upgrade

SYMBOL LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
A5 / E-501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 / E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
A5 / E-201	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING.
	BREAK, ROUND.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE.
WIRING METHODS	
	WIRING.
A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
1 A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
— x —	WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = : CATV = CABLE TELEVISION CCTV = CLOSED CIRCUIT TELEVISION FA = FIRE ALARM FO = FIBER OPTICS I = INTERCOM NC = NURSE CALL P = POWER RC = RIGID CONDUIT S = SOUND T = TELEPHONE TV = TELEVISION OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.
— · — · —	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
	JUNCTION BOX.
	EARTH GROUND (ONE-LINE DIAGRAM).
LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3)	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
NL	NIGHT LIGHT: DO NOT SWITCH.
	EGRESS DIRECTION ARROW.
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
P	PHOTOCELL.
TC	TIME CLOCK.
STRUCTURED CABLING	
	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE/ DATA COMMUNICATION.
	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.
	LAN RACK, FLOOR STANDING.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
ELECTRICAL POWER AND DISTRIBUTION	
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
	MOTOR.
	TRANSFORMER (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
M	METER.
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	STARTER OR MOTOR CONTROLLER.
	PUSHBUTTON.
	PUSHBUTTONS, MOTOR CONTROL.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
DP#	DISTRIBUTION PANEL OR SWITCHBOARD.
$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
75	TRANSFORMER: NUMBER INDICATES kVA.
	RELAY CONTACT, NORMALLY CLOSED (ONE-LINE DIAGRAM).
	RELAY CONTACT, NORMALLY OPEN (ONE-LINE DIAGRAM).
HC	ACCESSIBLE DOOR ENTRY PUSH PLATE OPERATOR.
WIRING DEVICES	
	RECEPTACLE, DUPLEX: NEMA 5-20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
C	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
D	RECEPTACLE, DUPLEX, DEDICATED CIRCUIT: NEMA 5-20R.
DF	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
WP	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	SWITCH, DIMMER.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).
X $4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FIRE ALARM	
FSA	FIRE SYSTEM ANNUNCIATOR.
FCP	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
CM	CONTROL MODULE.
MM	MONITOR MODULE.
P	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	DETECTOR, SMOKE.
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
	DETECTOR, HEAT.
75	STROBE. SUBSCRIPT INDICATES CANDELA RATING.
WP	ALARM, HORN/SPEAKER, WEATHERPROOF.
75	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
75	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
75	ALARM, HORN, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
	DETECTOR, FLOW SWITCH: FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
	DETECTOR, TAMPER SWITCH WITH VALVE: TAMPER SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
SD	SMOKE DAMPER.
FSD	FIRE AND SMOKE DAMPER.
	BELL (GONG).

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

ELECTRICAL SHEET INDEX

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	KV	KILOVOLT
1PH	SINGLE-PHASE	KVA	KILOVOLT AMPERE
1WAY	ONE-WAY	KVAR	KILOVOLT AMPERE REACTIVE
2/C	TWO-CONDUCTOR	kW	KILOWATT
2WAY	TWO-WAY	kWh	KILOWATT HOUR
3/C	THREE-CONDUCTOR	LED	LIGHT EMITTING DIODE
3PH	THREE-PHASE	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
3WAY	THREE-WAY	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4OUT	QUADRUPLE RECEPTACLE OUTLET	LPS	LOW PRESSURE SODIUM
4PDT	FOUR-POLE DOUBLE THROW	LRA	LOCKED ROTOR AMPS
4PST	FOUR-POLE SINGLE THROW	LTG	LIGHTING
4W	FOUR-WIRE	LV	LOW VOLTAGE
4WAY	FOUR-WAY	MATV	MASTER ANTENNA TELEVISION SYSTEM
A	ABOVE COUNTER	MAX	MAXIMUM
AC	ARMORED CABLE	MC	METAL CLAD
ADA	AMERICANS WITH DISABILITIES ACT	MCA	MINIMUM CIRCUIT AMPS
ADJ	ADJACENT	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MCP	MOTOR CIRCUIT PROTECTION
AIC	AMPERE INTERRUPTING CAPACITY	MDP	MAIN DISTRIBUTION PANEL
ALUM	ALUMINUM	MG	MOTOR GENERATOR
AMP	AMPERE	MH	MANHOLE
ANN	ANNUNCIATOR	MIN	MINIMUM
AP	ACCESS POINT (WIRELESS DATA)	MLO	MAIN LUGS ONLY
AR	AS REQUIRED	MOCP	MAXIMUM OVERCURRENT PROTECTION
ASC	AMPS SHORT CIRCUIT	NFC	NATIONAL FIRE CODE
ATS	AUTOMATIC TRANSFER SWITCH	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
AV	AUDIO VISUAL	NIC	NOT IN CONTRACT
AWG	AMERICAN WIRE GAGE	NL	NIGHT LIGHT
BB XFMR	BUCK-BOOST TRANSFORMER	NO	NORMALLY OPEN
C	CEILING MOUNTED	NTS	NOT TO SCALE
CATV	COMMUNITY ANTENNA TELEVISION	OC	ON CENTER
CB	CIRCUIT BREAKER	OCP	OVER CURRENT PROTECTION
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
CCTV	CLOSED CIRCUIT TELEVISION	OF/OI	OWNER FURNISHED/ OWNER INSTALLED
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OFP	OBTAIN FROM PLANS
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OH DR	OVERHEAD (COILING) DOOR
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OL	OVERLOAD
CKT	CIRCUIT	PB	PUSHBUTTON
CM	CONSTRUCTION MANAGER	PF	POWER FACTOR
CND	CONDUIT	PH	PHASE
CO	CONVENIENCE OUTLET	PNL	PANEL
COR	CONTRACTING OFFICER'S REPRESENTATIVE	PT	POTENTIAL TRANSFORMER
CP	CONTROL PANEL	PTZ	PAN/TILT/ZOOM
CT	CURRENT TRANSFORMER	QTY	QUANTITY
CTV	CABLE TELEVISION	R	REMOVE
CU	COPPER	RCP	REFLECTED CEILING PLAN
dBA	UNIT OF SOUND LEVEL	RMC	RIGID METAL CONDUIT
DPDT	DOUBLE POLE DOUBLE THROW	RNC	RIGID NONMETALLIC CONDUIT
DS	DISCONNECT SWITCH	RPM	REVOLUTIONS PER MINUTE
EA	EACH	RR	REMOVE AND RELOCATE
EM	EMERGENCY	SCA	SHORT CIRCUIT AMPS
EMT	ELECTRICAL METALLIC TUBING	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
ENT	ELECTRICAL NONMETALLIC TUBING	SF	SQUARE FOOT (FEET)
EPO	EMERGENCY POWER OFF	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
EQUIP	EQUIPMENT	SPDT	SINGLE POLE, DOUBLE THROW
EX	EXISTING	SPEC	SPECIFICATION
F	FURNITURE MOUNTED	SPST	SINGLE POLE, SINGLE THROW
FA	FIRE ALARM	S/S	START/STOP
FCP	FIRE ALARM CONTROL PANEL	ST	SINGLE THROW
FLA	FULL LOAD AMPS	SWBD	SWITCHBOARD
FMC	FLEXIBLE METALCONDUIT	SWGR	SWITCHGEAR
FOB	FREIGHT ON BOARD	TL	TWIST LOCK
FVNR	FULL VOLTAGE NON-REVERSING	TP	TELEPHONE POLE
FVR	FULL VOLTAGE REVERSING	TP	TWISTED PAIR
G	GROUND	TTB	TELEPHONE TERMINAL BOARD
GEN	GENERATOR	TV	TELEVISION
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
GFP	GROUND FAULT PROTECTION	TYP	TYPICAL
HD	HEAVY DUTY	UF	UNDERFLOOR
HID	HIGH INTENSITY DISCHARGE	UGND	UNDERGROUND
HOA	HAND-OFF-AUTOMATIC	UPS	UNINTERRUPTIBLE POWER SUPPLY
HP	HORSE POWER	V	VOLTS
HPF	HIGH POWER FACTOR	VA	VOLT AMPERE
HPS	HIGH PRESSURE SODIUM	VFC/VFD	VARIABLE FREQUENCY MOTOR CONTROLLER
HV	HIGH VOLTAGE	W/	WITH
HZ	HERTZ	W/O	WITHOUT
IG	ISOLATED GROUND	WP	WEATHERPROOF
IMC	INTERMEDIATE METAL CONDUIT	XFMR	TRANSFORMER
IN/IS	INSULATED/ISOLATED		
I/O	INPUT/OUTPUT		
IR	INFRARED		
J-BOX	JUNCTION BOX		

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GENERAL ELECTRICAL NOTES

1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
2. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
   A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
   B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
   C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.
3. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
4. SUBMITTALS: PROVIDE SUBMITTALS IN THREE RING BINDERS WITH JOB NAME, SUBCONTRACTOR, AND VOLUME ON THE BINDING. PREPARE TABS FOR EACH SPECIFICATION SECTION REQUIRING SUBMITTALS. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.
5. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ELECTRICAL SYMBOLS LEGEND AND GENERAL NOTES

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PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. EE101

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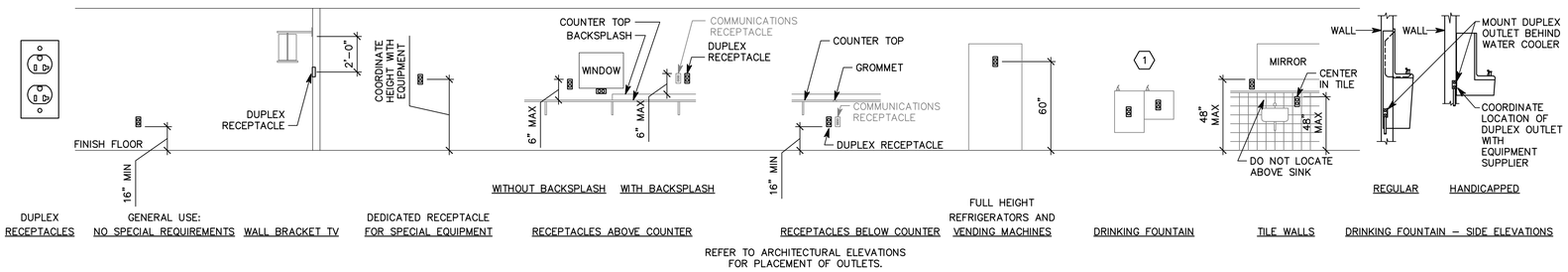
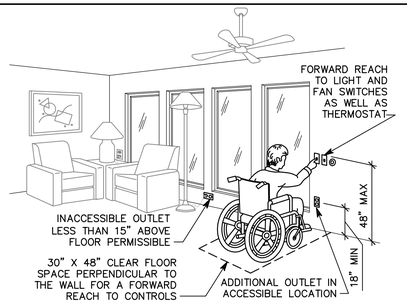
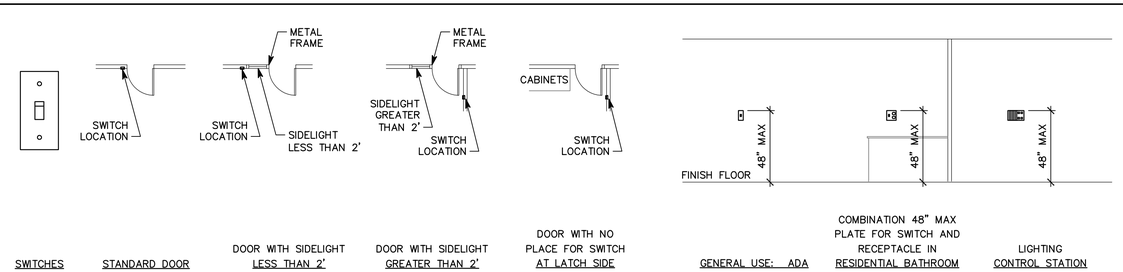


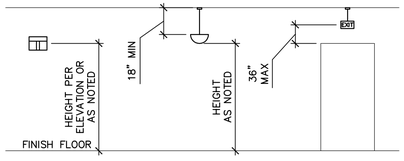
C18 RECEPTACLE MOUNTING DETAILS
NTS



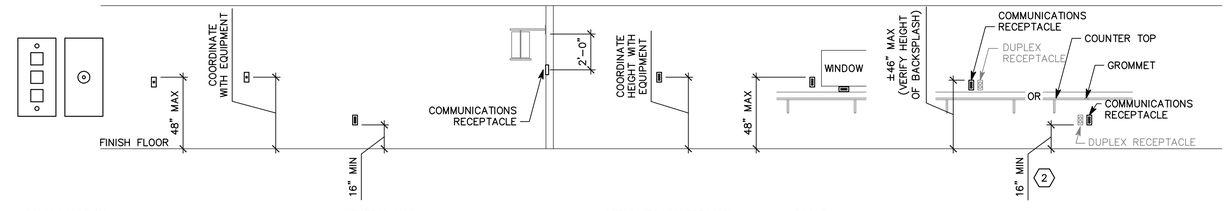
F18 ADA DETAIL
NTS



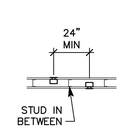
F14 SWITCH MOUNTING DETAILS
NTS



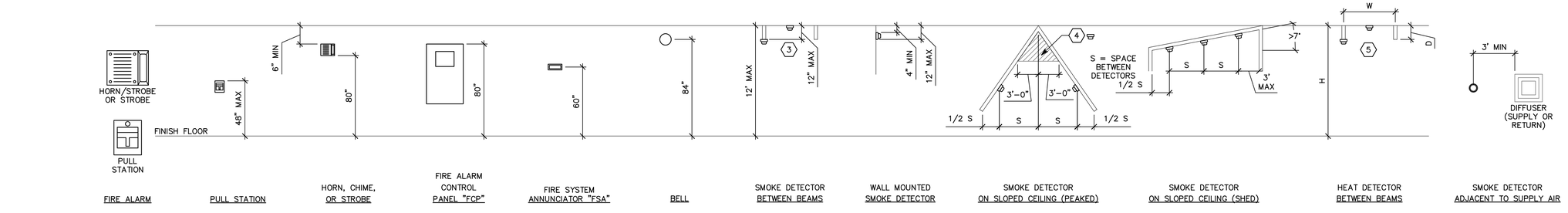
I18 LIGHTING MOUNTING DETAILS
NTS



I14 COMMUNICATION MOUNTING DETAILS
NTS



I13 BOX MOUNTING DETAILS
NTS



L18 FIRE ALARM MOUNTING DETAILS
NTS

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GENERAL NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:
   1 – ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
   2 – EQUIPMENT SHOP DRAWINGS.
   3 – FIELD INSTRUCTIONS.
2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIRING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.

⬡SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.
3. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY .5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
4. LOCATE SMOKE DETECTOR ANYWHERE IN SHADED AREA.
5. LOCATE AT BOTTOM OF BEAMS IF EITHER D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN BEAM POCKET.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ELECTRICAL DETAILS

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PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: EE501

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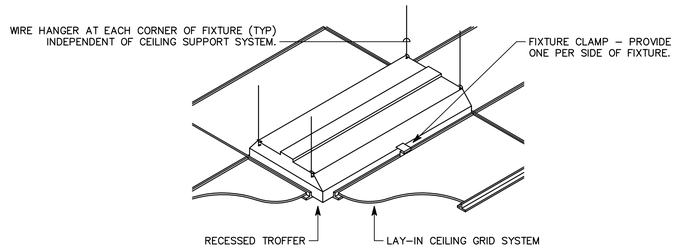
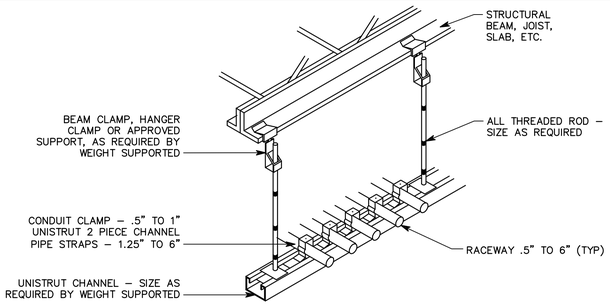


C14 RECESSED FIXTURE MOUNTING DETAIL

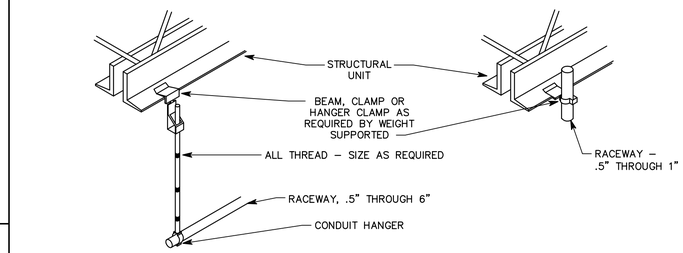
NTS

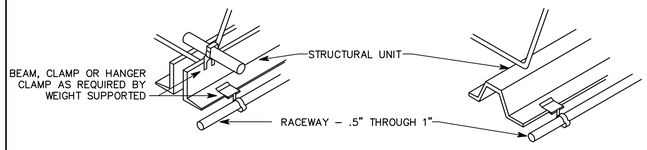


F13 TYPICAL CONDUIT RACK DETAIL

NTS

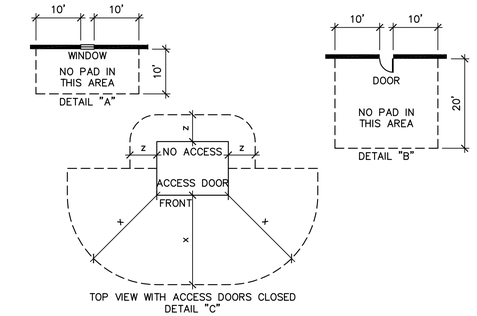
NOTE:
TIE WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGER SYSTEM.





F6 TYPICAL RACEWAY SUPPORT METHODS DETAIL

NTS



MINIMUM DISTANCE REQUIRED FROM PAD:

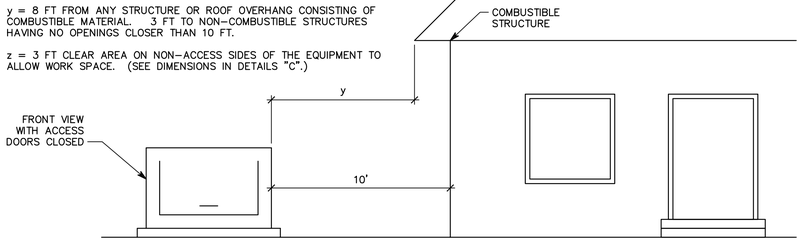
x = 10 FT. CLEAR AREA IN FRONT OF, ANY EQUIPMENT ACCESS DOOR OR OPENING TO ALLOW THE USE OF HOT STICKS. (SEE DIMENSIONS IN DETAIL "C". LOCATE PADMOUNTED EQUIPMENT WITH ACCESS DOORS AWAY FROM BUILDING WALLS OR OTHER BARRIERS TO ALLOW SAFE WORKING PRACTICES. IF THE EQUIPMENT ACCESS SIDE MUST FACE A WALL, ALLOW 10 FEET FOR WORKING CLEARANCE. NO VEGETATION OR TRIP HAZARDS IN THIS WORK SPACE ARE PERMITTED.)

y = 8 FT FROM ANY STRUCTURE OR ROOF OVERHANG CONSISTING OF COMBUSTIBLE MATERIAL. 3 FT TO NON–COMBUSTIBLE STRUCTURES HAVING NO OPENINGS CLOSER THAN 10 FT.

z = 3 FT CLEAR AREA ON NON–ACCESS SIDES OF THE EQUIPMENT TO ALLOW WORK SPACE. (SEE DIMENSIONS IN DETAILS "C".)

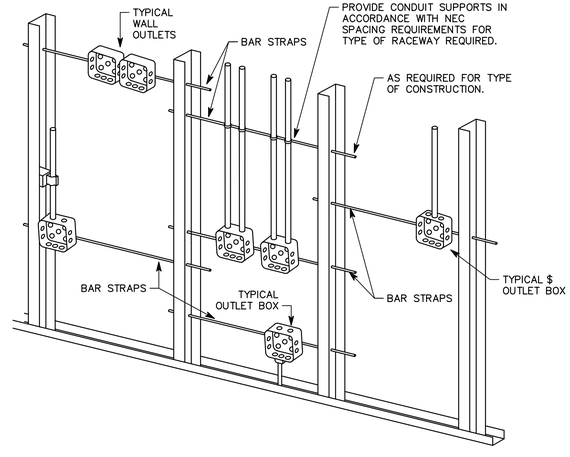
CLEARANCE GENERAL NOTES:

1. CLEARANCES: THE FRONT OF THE PAD SHOULD ALWAYS FACE AWAY FROM ADJACENT STRUCTURES AND BE FREE OF OBSTRUCTIONS. AT LEAST 3 FEET MUST SEPARATE THE EDGES OF THE PAD FROM ANY ADJACENT STRUCTURE. THE EDGES OF THE PAD MUST BE AT LEAST 10 FEET FROM ANY COMBUSTIBLE STRUCTURE. IF AN ADJACENT STRUCTURE HAS ANY OVERHANG OR EAVE WITHIN 27 VERTICAL FEET OF THE TOP OF THE PAD, CLEARANCES MUST BE MEASURED FROM THE OUTSIDE OF THE OVERHANG. THE PAD MUST NOT BE PLACED IN AN AREA 10 FEET IN LINE WITH OR 10 FEET TO EITHER SIDE OF ANY WINDOW IN AN ADJACENT STRUCTURE (SEE DETAIL "A"). CLEARANCE FOR A DOOR MUST BE 20 FEET IN LINE WITH IT AND 10 FEET ON THE SIDES (SEE DETAIL "B"). PADS MUST NOT BE PLACED WITHIN 15 FEET OF ANY VALVE OR WITHIN 25 FEET OF ANY PLUMBING OR STORAGE FACILITY CONTAINING FLAMMABLE MATERIAL. NO WALLS, FENCES, OR ANY OTHER OBSTRUCTIONS WILL BE PLACED WITHIN 3 FEET OF THE SIDES OR BACK OF THE PAD, OR WITHIN 10 FEET OF THE FRONT OF THE PAD (SEE DETAIL "C"). THE AREA IN FRONT OF THE PAD MUST HAVE 10 FEET OF CLEAR, LEVEL WORKING AREA FOR MAINTENANCE OF THE TRANSFORMER. THE PAD MAY NOT BE PLACED IN LINE WITH AN AIR INTAKE WITHIN 32 VERTICAL FEET OF THE SURFACE PAD. ALSO VERTICALLY, IT MUST NOT BE PLACED WITHIN 12 FEET OF A DOOR OR WINDOW. VAULTS SHALL BE LOCATED WITHIN 15 FEET OF A GRAVELED OR PAVED SURFACE SUITABLE FOR INCIDENTAL HEAVY TRUCK ACCESS.
2. BARRIERS: IF THE TRANSFORMER PAD IS TO BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC, (PARKING LOTS, DRIVEWAYS, ETC) CONTACT ROCKY MOUNTAIN POWER FOR PROTECTIVE BARRIER REQUIREMENTS.
3. IF THE TRANSFORMER WILL NOT COVER THE CABLE OPENINGS ON THESE STANDARD PADS, SEAL THE SIDES OF THE CABLE OPENING TO FIT THE TRANSFORMER USING SACKRETE OR COMPARABLE.



L5 CLEARANCE DETAIL

NTS



NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH–IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH IBC 711.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.
5. IN NON–RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

L6 TYPICAL ROUGH–IN REQUIREMENTS DETAIL

NTS

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Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ELECTRICAL DETAILS

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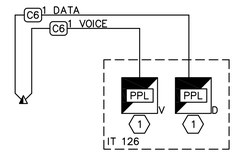
Utah National Guard - Price Armory - Seismic Upgrade

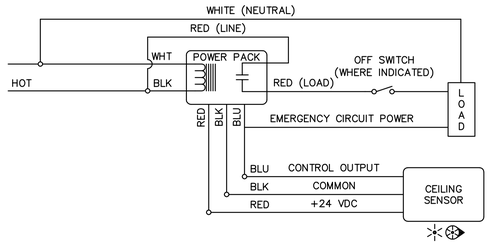
VOICE/DATA EQUIPMENT/CABLE LIST

SYMBOL	ITEM DESCRIPTION	MANUFACTURERS
X C6 VOICE	VOICE CABLING, CATEGORY 6	SEE SPECIFICATIONS (CAT6 YELLOW PLENUM RATED) ('X' INDICATES QUANTITY)
X C6 DATA	DATA CABLING, CATEGORY 6	SEE SPECIFICATIONS (CAT6 BLUE PLENUM RATED) ('X' INDICATES QUANTITY)
PPL	PATCH PANEL	SEE SPECIFICATIONS
V	BLUE METAL BACKBOARD (VOICE)	M183-B1 (VAR)
D	YELLOW METAL BACKBOARD (DATA)	M183-B5 (VAR)
▽	WORK STATION OUTLET (1-LAN, 1-VOICE)	SEE SPECIFICATIONS

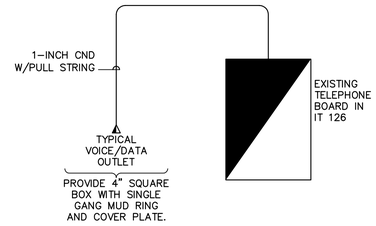
NOTE: ALL RACKS, LADDER, PATCH PANELS, AND ACCESSORIES SHALL BE BLACK IN COLOR.



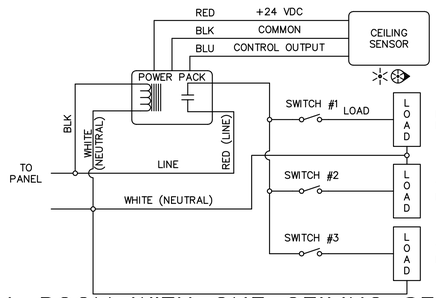
C8 COMMUNICATIONS CABLING RISER
NTS



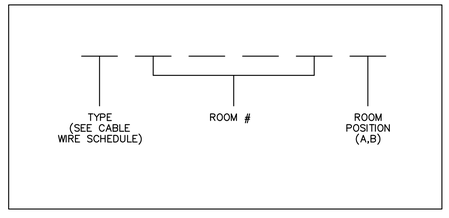
F15 TYPICAL ROOM WITH ONE CEILING SENSOR, WITH OR WITHOUT WALL SWITCH
NO SCALE



F8 COMMUNICATIONS CONDUIT RISER DIAGRAM
NTS



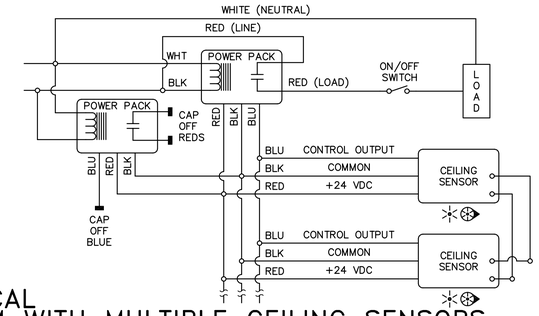
I15 TYPICAL ROOM WITH ONE CEILING SENSOR, ONE CIRCUIT AND MULTIPLE SWITCHED LOADS
NO SCALE



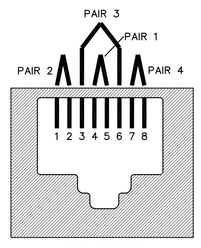
NOTES:

1. ALL CABLE/WIRE, REGARDLESS OF LENGTH, SHALL BE LABELED WITH A UNIQUE IDENTIFYING CODE. LABEL SHALL BE PERMANENT AND SHALL BE MACHINE PRINTED (NOT HAND PRINTED). SUBMIT PROPOSED LABEL MATERIAL FOR APPROVAL.
2. PRIOR TO LABEL CREATION, SUBMIT FOR APPROVAL PROPOSED ROOM NUMBER SCHEME FOR CABLE LABELS.

I8 CABLE LABEL DETAIL
NTS



L15 TYPICAL ROOM WITH MULTIPLE CEILING SENSORS
NO SCALE

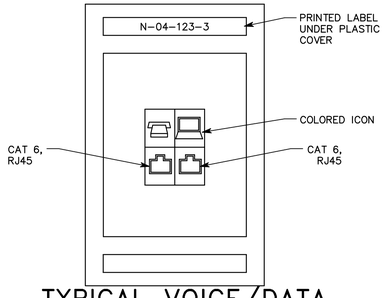


T568B

PAIR ID	PIN #
T1	5
R1	4
T2	1
R2	2
T3	3
R3	6
T4	7
R4	8

COLOR SCHEME
PAIR 1 – BLUE
PAIR 2 – ORANGE
PAIR 3 – GREEN
PAIR 4 – BROWN

L8 RJ45 WIRING DETAIL
NTS



L4 TYPICAL VOICE/DATA PLATE DETAIL
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GENERAL VOICE/DATA NOTES

1. PROVIDE PLENUM RATED CABLE IN ALL AIR PLENUMS. IF A PLENUM RATED CABLE IS NOT SPECIFIED, PROVIDE THE PLENUM RATED EQUIVALENT TO THE SPECIFIED CABLE.
2. ALL CABLE, REGARDLESS OF LENGTH, INSTALLED UNDER THIS CONTRACT ARE TO BE LABELED.
3. THE EQUIPMENT LABELING IDENTIFIED ON DETAILS IN THESE DRAWINGS ARE EXAMPLES ONLY OF THE ACTUAL LABELING WHICH IS REQUIRED AS PART OF THIS CONTRACT. PRIOR TO FABRICATION, SUBMIT THE NOMENCLATURE FOR ALL LABELS TO THE OWNER FOR REVIEW. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO ALL CABLE LABELING, AND ALL EQUIPMENT LABELING.
4. ALL CABLE, FIBER, AND UTP TO TERMINATE ON BOTH ENDS.
5. WELL IN ADVANCE OF INSTALLATION, COORDINATE WORK WITH ALL OTHER TRADES SO THAT ELECTRICAL EQUIPMENT, OR ITS INTENDED USE, IS NOT OBSTRUCTED BY EQUIPMENT BEING PROVIDED BY OTHER DIVISIONS.
6. 'A' INDICATES MOUNTING ABOVE COUNTER. VERIFY HEIGHT OF POWER OUTLET AND MOUNT DATA OUTLET NEXT TO POWER OUTLET.
7. ALL WORK SHALL BE IN COMPLIANCE WITH UTNG STANDARD UT-G6-C.
8. ALL WORK SHALL BE COORDINATED WITH UTAH NATIONAL GUARD.
9. ALL CONDUIT FOR VOICE/DATA, AND A/V CABLE SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/TIA/EIA569-A.
10. PRIOR TO INSTALLATION, VERIFY A/V ROUGH-IN WITH OWNER.

⬡ SHEET KEYNOTES

1. PROVIDE ADDITIONAL PATCH PANELS AS REQUIRED FOR NEW DEVICES AND TO LEAVE AT LEAST 25% SPARE CAPACITY ON THE TOTAL SYSTEM. FIELD VERIFY REQUIREMENTS.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
564 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
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PROJECT NO.: 08297840
DRAWING NO.: EE503
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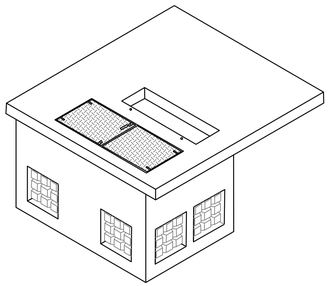


FIGURE 1 – PADVAULT

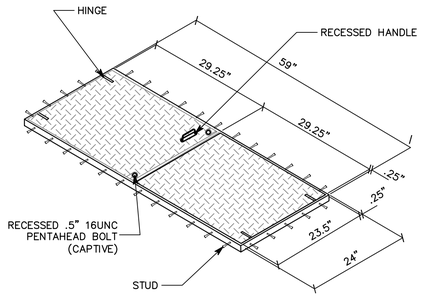
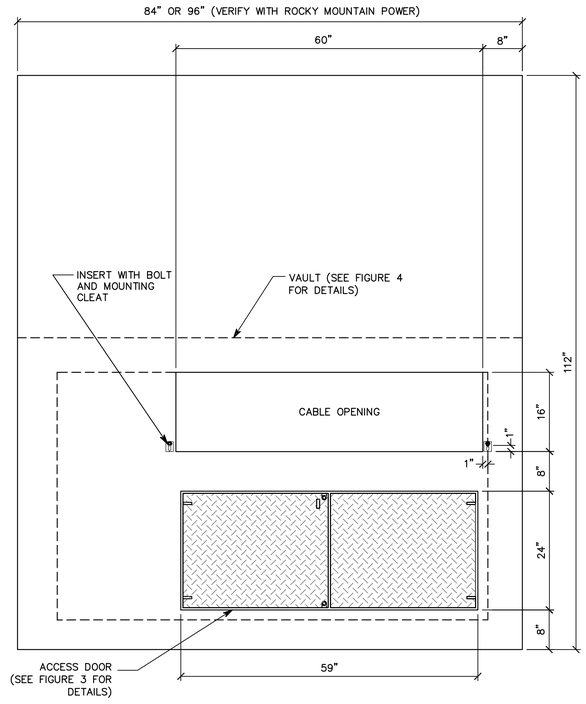


FIGURE 3 – ACCESS DOOR DETAIL



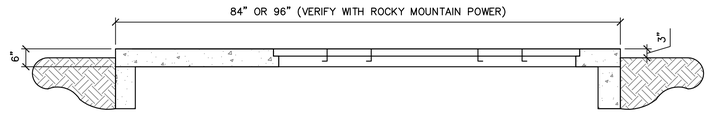


FIGURE 2 – PADVAULT PAD WITH ACCESS 84" OR 96" WIDE

FIGURE 4 – PADVAULT ENCLOSURE

GENERAL SHEET NOTES

5.6 INSTALLATION

THIS UNIT SHALL BE INSTALLED AT THE SITE BY THE SUPPLIER OR CONTRACTOR. ALL EARTH UNDER THE PADVAULT SHALL BE COMPACTED AND LEVEL PRIOR TO SETTING THE PADVAULT. PROVIDE 6" OF 3/4–INCH–MINUS GRAVEL BACKFILL BASE. THE JOINT BETWEEN THE PAD AND ENCLOSURE SHALL BE SEALED USING TAR OR MASTIC. THE TOP OF THE PAD SHOULD BE TWO TO FOUR INCHES ABOVE FINAL GRADE, WHEN INSTALLED.

6. TESTING

6.1 TEST COMPLIANCE

PADVAULTS SUBMITTED UNDER THIS MATERIAL SPECIFICATION SHALL MEET ALL TESTS AND REQUIREMENTS CONTAINED IN ZG 301, GENERAL EQUIPMENT BASE AND ENCLOSURE REQUIREMENTS, ZG 311, CONCRETE REQUIREMENTS, AND THIS MATERIAL SPECIFICATION. PADVAULTS WILL ALSO COMPLY WITH REQUIREMENTS IN APPLICABLE NATIONAL STANDARDS.

6.2 SECURITY TEST

TRANSFORMER PADVAULTS MUST BE ABLE TO PASS THE FOLLOWING SECURITY TEST. THE SECURITY TEST IS DESIGNED TO ENSURE THAT PADMOUNT EQUIPMENT, WHICH COMPLIES WITH WESTERN UNDERGROUND COMMITTEE GUIDE 2.13, SECURITY FOR PADMOUNTED EQUIPMENT ENCLOSURES, IS NOT COMPROMISED BY UNEVEN PAD SETTING.

WITH THE APPROPRIATE TRANSFORMER MOUNTED, ATTEMPT TO PASS A #14 AWG SOFT–DRAWN COPPER WIRE THROUGH THE INTERFACE BETWEEN THE CABINET AND PAD. IF THE WIRE CAN BE PASSED THROUGH, THE PADVAULT HAS FAILED THE TEST AND IS NOT ACCEPTABLE.

1. PROVIDE AMCOR TYPE GV151 PADVAULT OR AS APPROVED OR DIRECTED BY ROCKY MOUNTAIN POWER.

2. SUBMIT PADVAULT TO ROCKY MOUNTAIN POWER FOR APPROVAL PRIOR TO THE PURCHASE AND INSTALLATION OF THE PADVAULT.

GENERAL SHEET NOTES

1. SCOPE

THIS MATERIAL SPECIFICATION OUTLINES THE MINIMUM REQUIREMENTS FOR PADVAULTS TO BE USED IN CONJUNCTION WITH PACIFICORP– OWNED THREE–PHASE TRANSFORMERS (SEE FIGURE 1). THE MATERIAL SPECIFICATION APPLIES WHETHER THE PADVAULT IS TO BE INSTALLED BY COMPANY PERSONNEL, CONTRACTOR, CUSTOMER, OR THE SUPPLIER.

2. APPLICABLE DOCUMENTS

THE LATEST REVISIONS OF THE DOCUMENTS, STANDARDS, CODES, AND REQUIREMENTS LISTED IN 2.1, PACIFICORP, AND 2.2, CODES AND STANDARDS, IN EFFECT ON THE DATE OF INVITATION TO BID APPLY TO THE EXTENT SPECIFIED HEREIN.

2.1 PACIFICORP

ZG 301 GENERAL EQUIPMENT BASE AND ENCLOSURE REQUIREMENTS
ZG 311 CONCRETE REQUIREMENTS

2.2 CODES AND STANDARDS

WESTERN UNDERGROUND COMMITTEE GUIDE 2.13, SECURITY FOR PADMOUNTED EQUIPMENT ENCLOSURES

APPLICABLE CODES
ANSI STANDARDS
IEEE STANDARDS
NEMA STANDARDS

3. GENERAL

3.1 APPLICATION INFORMATION

THIS MATERIAL SPECIFICATION STATES MATERIAL AND CONSTRUCTION REQUIREMENTS THAT ARE APPLICABLE TO ALL THREE–PHASE TRANSFORMER PADVAULTS.

3.2 AUTHORIZED MATERIAL SPECIFICATION

THIS MATERIAL SPECIFICATION IS NOT CONSIDERED VALID UNTIL EACH PAGE CONTAINS THE APPROVAL SIGNATURE OR INITIALS OF THE PERSONS NAMED IN THE TITLE BLOCKS.

4. APPLICABLE STOCK ITEM NUMBERS

MATERIALS BEING SUBMITTED FOR THE FOLLOWING PACIFICORP STOCK ITEM NUMBERS ARE SUBJECT TO EVALUATION IN ACCORDANCE WITH REQUIREMENTS IN THIS MATERIAL SPECIFICATION.

1790023, PADVAULT, TRANSFORMER, 3–PHASE, 75–500 KVA
1790024, PADVAULT, TRANSFORMER, 3–PHASE, 500–2500 KVA

5. PRODUCT AND INSTALLATION REQUIREMENTS

THE PURPOSE OF A THREE–PHASE TRANSFORMER PADVAULT IS TO SUPPORT A THREE–PHASE TRANSFORMER.

5.1 PADVAULT LAYOUT

THE THREE–PHASE TRANSFORMER PADVAULT IS COMPOSED OF TWO PIECES: (1) THE PAD, AND (2) THE ENCLOSURE. UNLESS OTHERWISE APPROVED BY PACIFICORP ENGINEERING, ALL DIMENSIONS AND PLACEMENT OF HARDWARE SHALL CONFORM TO THOSE SHOWN ON THIS SHEET. THE ENCLOSURE IS COMMON TO ALL PADVAULTS COVERED BY THIS MATERIAL SPECIFICATION, ZG 531, PADVAULT–THREE–PHASE SECTIONALIZING CABINET, AND ZG 551, PADVAULT–THREE–PHASE FUSING CABINET.

5.2 INSERTS

TWO .375" 16UNC STAINLESS STEEL OR NYLON THREADED INSERTS AND STAINLESS STEEL BOLTS WITH CLEATS FOR MOUNTING THE TRANSFORMER SHALL BE PLACED IN THE PAD AS SHOWN IN FIGURE 2.

5.3 PULLING ATTACHMENTS

CABLE PULLING ATTACHMENTS SHALL BE INSTALLED OPPOSITE OF EACH SET OF CONDUIT BREAKOUTS SUCH THAT BLOCKS MAY BE ATTACHED FOR A STRAIGHT CABLE PULL. PULLING ATTACHMENTS SHALL HAVE A MINIMUM PULLOUT STRENGTH OF 6000 POUNDS. ATTACHMENTS SHALL ALLOW THE ATTACHMENT OF A CLEVIS WITH A ONE–INCH DIAMETER THROUGH BOLT. PULLING ATTACHMENTS MAY BE DESIGNED BY THE MANUFACTURER TO MEET THESE REQUIREMENTS.

5.4 CONDUIT ENTRANCES

BANKS OF NINE (9) SIX–INCH SQUARE BREAKOUTS SHALL BE USED FOR CONDUIT ENTRANCES. TWO BANKS OF KNOCKOUTS SHALL BE PLACED IN EACH SIDE AND IN EACH END OF THE ENCLOSURE.

5.5 LIFTING ATTACHMENTS

ENOUGH LIFTING ATTACHMENTS SHALL BE PROVIDED TO ENSURE SAFE INSTALLATION OF ALL PIECES AT THE SITE.

L18 THREE–PHASE TRANSFORMER PADVAULT (ROCKY MOUNTAIN POWER STANDARD)
NTS

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Utah National Guard
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SHEET TITLE
TRANSFORMER PAD VAULT DETAIL

REVISIONS	DATE	BY	DESCRIPTION
△			
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PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: EE504

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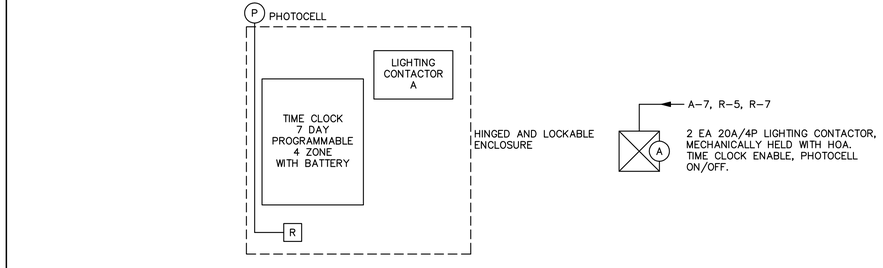
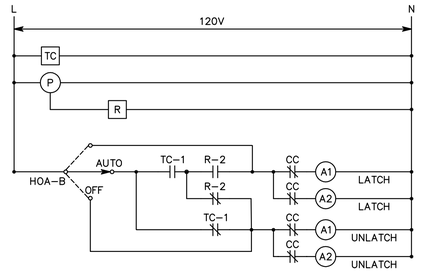


L15 LIGHTING CONTROL DIAGRAM
NO SCALE



KEY

- TC — 24 HOUR 4 ZONE TIME CLOCK (MAINTAINED OUTPUT)
- P — PHOTOCELL
- R — DPDT RELAY (MAINTAINED)
- A — TIME CLOCK ENABLE / PHOTOCELL ON/OFF

NOTE:
PROVIDE CONTACT CLEARING LATCHING CONTACTORS.

L6 TYPICAL LIGHTING CONTROL SCHEMATIC
NO SCALE

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SHEET TITLE
LIGHTING CONTROL DIAGRAMS

REVISIONS	DATE	BY	DESCRIPTION
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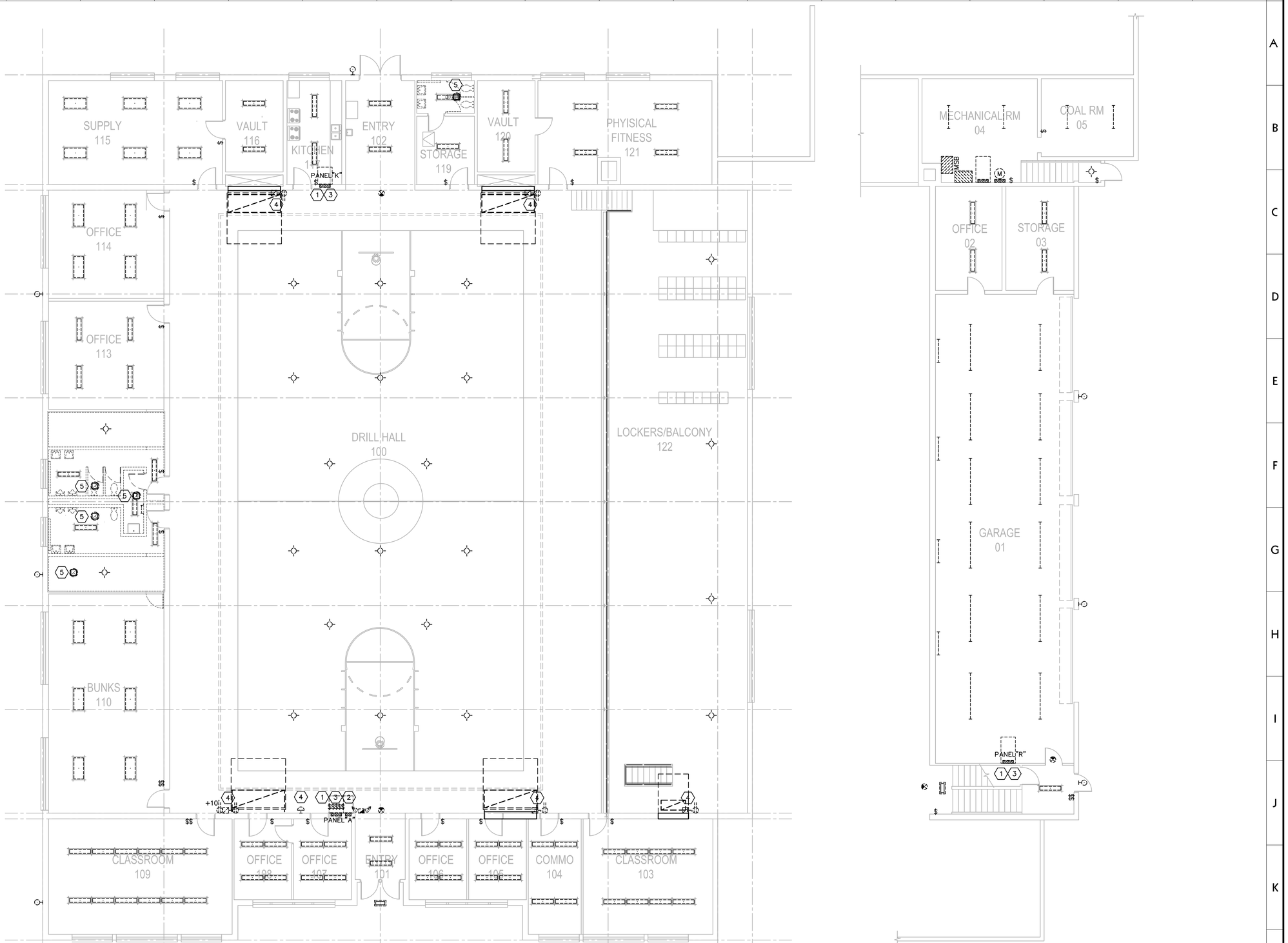

1 ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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GENERAL NOTES

1. REMOVE ALL ASSOCIATED RACEWAYS, CONDUCTORS, AND SWITCHED LEG OF LIGHT FIXTURES THAT ARE TO BE DEMOLISHED.
2. REMOVE ALL EXISTING ABANDONED RACEWAYS AND CONDUCTORS FROM THE WALLS AND CEILINGS.
3. REMOVE ALL RACEWAYS AND CONDUCTORS THAT BECOME ABANDONED AS A RESULT OF THIS PROJECT.
4. COORDINATE WITH THE UTAH NATIONAL GUARD TO REMOVE OTHER ELECTRICAL RACEWAYS AND CONDUCTORS THAT ARE NOT SPECIFICALLY SHOWN ON THE DRAWINGS.
5. COORDINATE WITH MECHANICAL DRAWINGS TO REMOVE ALL RACEWAYS AND CONDUCTORS TO MECHANICAL EQUIPMENT TO BE REMOVED.

SHEET KEYNOTES

1. LABEL EXISTING BRANCH CIRCUITS PRIOR TO REMOVING THE EXISTING PANELBOARD. PREPARE FOR INSTALLATION OF NEW PANELBOARD IN THE SAME LOCATION. SAW-CUT BLOCK WALL AS REQUIRED TO INSTALL NEW PANEL IN SAME LOCATION AS EXISTING PANEL TO BE REMOVED.
2. PROVIDE NEW LATCH-LOCK FOR EXISTING PANEL.
3. PROVIDE NEW RACEWAY AND CONDUCTOR FEEDERS FOR NEW PANELBOARD. CONCEAL RACEWAY ABOVE ACCESSIBLE CEILING.
4. REMOVE ALL ASSOCIATED RACEWAYS AND CONDUCTORS OF EQUIPMENT, FIXTURE, OR DEVICE TO BE REMOVED.
5. REMOVE ALL ELECTRICAL POWER RACEWAYS, CONDUCTORS, AND EQUIPMENT ASSOCIATED TO MECHANICAL EQUIPMENT THAT IS TO BE REMOVED.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
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SHEET TITLE
ELECTRICAL DEMOLITION PLAN

REVISIONS	DATE	BY	DESCRIPTION
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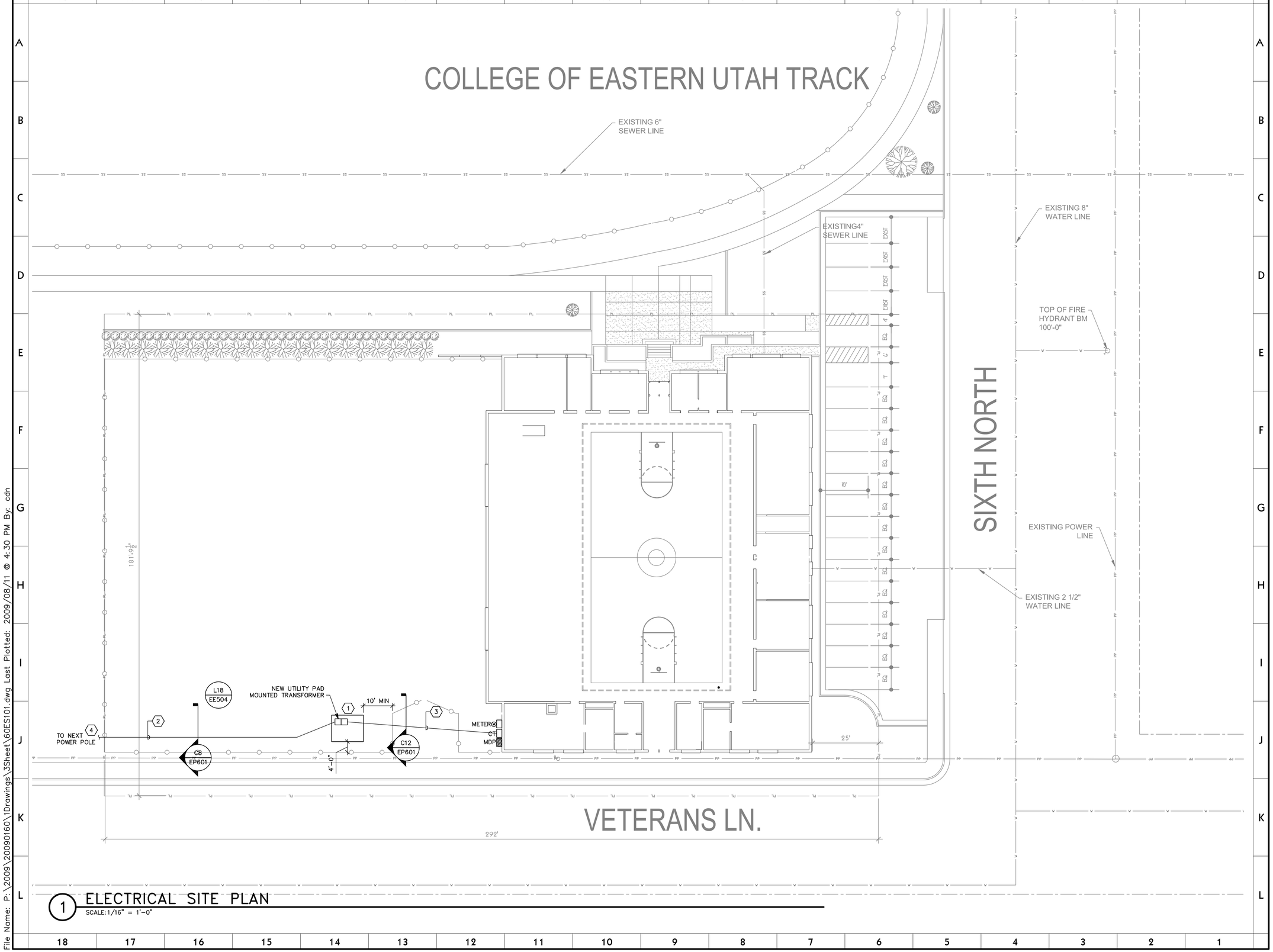

1 ELECTRICAL SITE PLAN
SCALE: 1/16" = 1'-0"

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GENERAL SHEET NOTES

1. COORDINATE WITH UTILITY PROVIDER TO VERIFY WHO IS RESPONSIBLE TO PROVIDE WHAT RACEWAYS, CONDUCTORS, CONCRETE PAD, TRANSFORMER, ETC.

⬡SHEET KEYNOTES

1. PROVIDE NEW PAD VAULT FOR UTILITY TRANSFORMER. COORDINATE WITH ROCKY MOUNTAIN POWER.
2. COORDINATE WITH ROCKY MOUNTAIN POWER. PROVIDE 1-EACH 4-INCH UNDERGROUND CONDUIT WITH A 500 LB. TEST ROPE.
3. PROVIDE SECONDARY UNDERGROUND FEEDERS. SEE ONE-LINE DIAGRAM AND DETAIL CALL OUT. COORDINATE WITH ROCKY MOUNTAIN POWER.
4. COORDINATE WITH ROCKY MOUNTAIN POWER TO TAKE UNDERGROUND PRIMARY CONDUIT UP THE EXISTING POWER POLE.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
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SHEET TITLE
ELECTRICAL SITE PLAN

REVISIONS	DATE	BY	DESCRIPTION
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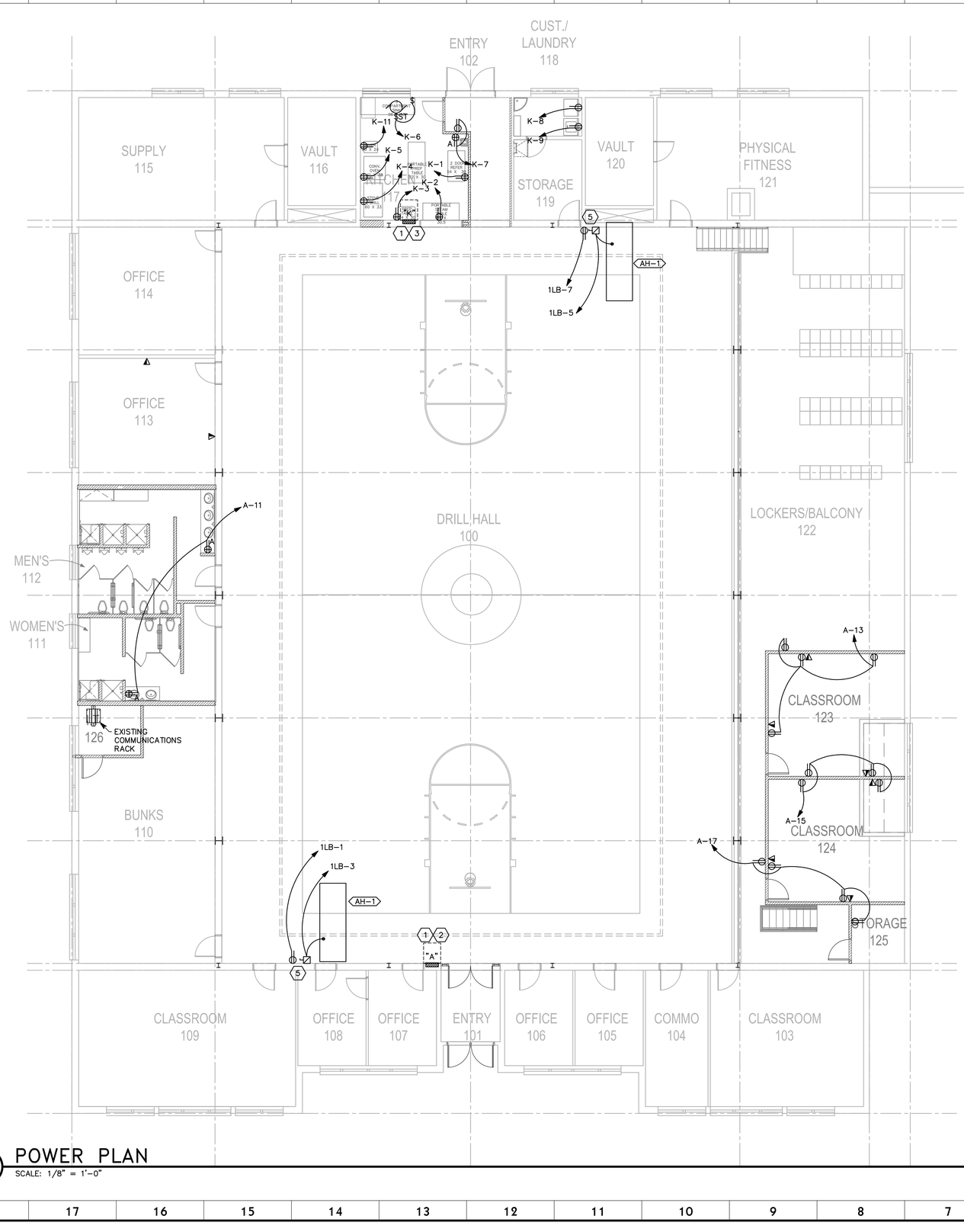

1 POWER PLAN
SCALE: 1/8" = 1'-0"

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GENERAL NOTES

1.

SHEET KEYNOTES

1. PROVIDE NEW RACEWAY AND CONDUCTORS TO FEED NEW PANEL. SEE ONE-LINE DIAGRAM.
2. INTERCEPT EXISTING BRANCH CIRCUITRY AND CONNECT INTO NEW PANEL. PROVIDE JUNCTION BOX ABOVE ACCESSIBLE CEILING AND EXTEND EXISTING BRANCH CIRCUITRY CONDUCTORS AS REQUIRED.
3. USE EXISTING PANEL AS A JUNCTION BOX TO EXTEND BRANCH CIRCUITRY INTO NEW PANEL. REMOVE INTERNAL BUSSING OF EXISTING PANEL. PROVIDE TERMINAL STRIP INSIDE EXISTING PANEL TO BE USED TO EXTEND BRANCH CIRCUITRY CONDUCTORS INTO NEW PANELBOARD.
4. PROVIDE MATCHING PANELBOARD CAN AND COVER TO NEW PANELBOARD "R" TO BE SURFACE MOUNTED OVER THE TOP OF EXISTING PANEL "R."
5. MOUNT DISCONNECT SWITCH AND RECEPTACLE HIGH ON WALL NEXT TO THE MECHANICAL EQUIPMENT.
6. PROVIDE GUTTER ABOVE PANELBOARDS 1LA AND 1LB. EXTEND EXISTING BRANCH CIRCUITRY CONDUCTORS AS REQUIRED.
7. PROVIDE A UFER GROUND IN NEW PYLON FOOTINGS. COORDINATE WITH STRUCTURAL DRAWINGS.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
564 NORTH 500 EAST
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SHEET TITLE
POWER PLAN

REVISIONS	DATE	BY	DESCRIPTION
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PROJECT NO. 08297840
DRAWING NO. EP101
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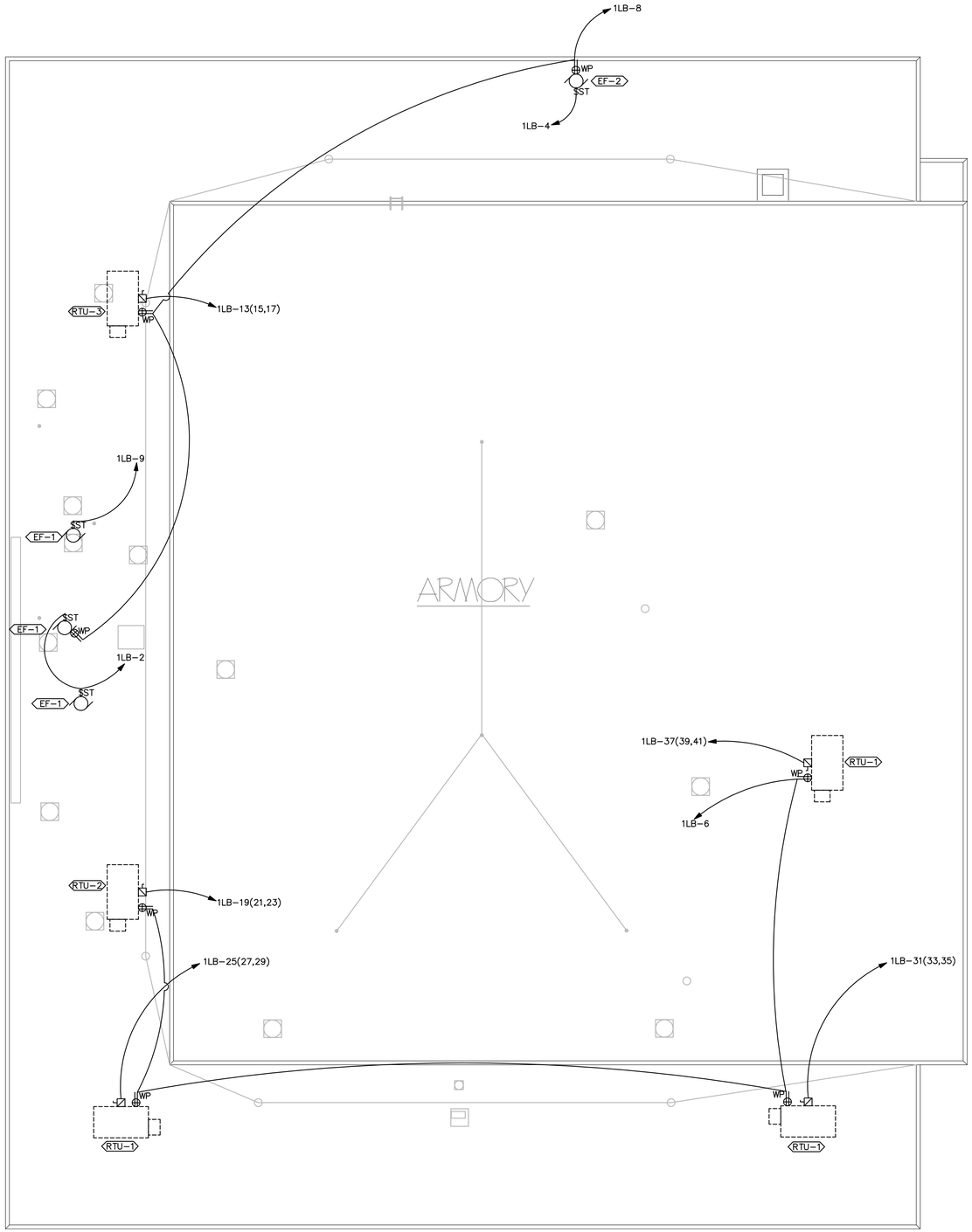

1 ROOF POWER PLAN
SCALE: 1/8" = 1'-0"

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GENERAL NOTES

1. LINE OF TEXT

⬡SHEET KEYNOTES

1. LINE OF TEXT

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ROOF POWER PLAN

REVISIONS	DATE	BY	DESCRIPTION
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PROJECT NO.: 08297840
DATE: JUNE 17, 2009
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PANEL "1LB"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUG	MECHANICAL ROOM	SURFACE	1 2 3

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)				LCL	PHASE LOAD			LCL		LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR	DESCRIPTION	kVA	A	B	C	kVA	DESCRIPTION	LTG	CO	PWR	AMP	POLE	NO
1	20	1			0.2	EAST AH-1 CO. OUTLET	0.2	1.4			1.2	EF-1 (WOMEN'S)			1.2	20	1	2
3	20	1			0.6	EAST AH-1	0.6		1.1		0.5	EF-2 (RM 118)			0.5	20	1	4
5	20	1			0.6	WEST AH-1	0.6			1.4	0.8	ROOF TOP OUTLETS		0.8		20	1	6
7	20	1		0.2		WEST AH-1 CO. OUTLET	0.2	0.8			0.6	ROOF TOP OUTLETS		0.6		20	1	8
9	20	1			0.6	EF-1 (MEN'S)	0.6		2.0		1.4	UH-1			1.4	20	1	10
11	20	1				SPARE	0.0			0.0	0.0	EXISTING LOAD				20	1	12
13	30	3			3.2	RTU-3 (WEST)	3.2	3.2			0.0	EXISTING LOAD				20	1	14
15	–	–			3.2	---	3.2		3.2		0.0	EXISTING LOAD				20	1	16
17	–	–			3.2	---	3.2			3.2	0.0	EXISTING LOAD				20	1	18
19	45	3			3.7	RTU-2 (SOUTH)	3.7	3.7			0.0	EXISTING LOAD				20	1	20
21	–	–			3.7	---	3.7		3.7		0.0	EXISTING LOAD				20	1	22
23	–	–			3.7	---	3.7			3.7	0.0	EXISTING LOAD				20	1	24
25	50	3			4.2	RTU-1 (SOUTH EAST)	4.2	4.2			0.0	EXISTING LOAD				20	1	26
27	–	–			4.2	---	4.2		4.2		0.0	EXISTING LOAD				20	1	28
29	–	–			4.2	---	4.2			4.2	0.0	EXISTING LOAD				20	1	30
31	50	3			4.2	RTU-1 (EAST)	4.2	4.2			0.0	EXISTING LOAD				20	1	32
33	–	–			4.2	---	4.2		4.2		0.0	EXISTING LOAD				20	1	34
35	–	–			4.2	---	4.2			4.2	0.0	EXISTING LOAD				20	1	36
37	50	3			4.2	RTU-1 (NORTH)	4.2	4.2			0.0	EXISTING LOAD				20	1	38
39	–	–			4.2	---	4.2		5.2		1.0	DUCT DETECTOR			1.0	20	1	40
41	–	–			4.2	---	4.2			5.2	1.0	FCP			1.0	20	1	42
43	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	44
45	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	66
67	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	68
69	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0			0.0	0.0	BLANK				20	1	72
73	20	1				SPARE	0.0	0.0			0.0	BLANK				20	1	74
75	20	1				SPARE	0.0		0.0		0.0	BLANK				20	1	76
77	20	1				SPARE	0.0			0.0	0.0	BLANK				20	1	78
79	20	1				SPARE	0.0	0.0			0.0	BLANK				20	1	80
81	20	1				SPARE	0.0		0.0		0.0	BLANK				20	1	82
83	20	1				SPARE	0.0			0.0	0.0	BLANK				20	1	84
TOTALS:						CONNECTED kVA PER PHASE	22	24	22			CONNECTED TOTAL kVA				67		
						CONNECTED AMPS PER PHASE	181	197	183			CONNECTED AVERAGE AMPS PER PHASE				187		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 0kVA @125% =	0 kVA	ALL OTHER LOADS @100% =	66 kVA	DIVERSIFIED TOTAL kVA =	67
RECEPTACLES 2kVA @100% =	2 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	187
REMAINDER 0kVA @ 50% =	0 kVA				

IF NOTES ARE NOT USED, DO NOT INCLUDE ON DRAWINGS.

NOTES LEGEND:

1. PROVIDE MATCHING CIRCUIT BREAKERS FOR EXISTING LOADS FIELD VERIFY.
2. PROVIDE SPARE 20A CIRCUIT BREAKERS TO FILL PANEL AFTER ALL EXISTING LOADS ARE ACCOUNTED FOR.
3. PROVIDE TYPE WRITTEN PANEL SCHEDULE WITH ACCURATE NEW, EXISTING, AND SPARE CRCUITS CLEARLY IDENTIFIED.

PANEL "1LA"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUG	MECHANICAL ROOM	SURFACE	1 2 3

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)				LCL	PHASE LOAD			LCL		LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR	DESCRIPTION	kVA	A	B	C	kVA	DESCRIPTION	LTG	CO	PWR	AMP	POLE	NO
1	20	1	1.4			DRILL HALL LIGHTS "A"	1.8	2.8			1.8	DRILL HALL LIGHTS "E"	1.4			20	1	2
3	20	1	1.4			DRILL HALL LIGHTS "B"	1.8		2.8		1.8	DRILL HALL LIGHTS "F"	1.4			20	1	4
5	20	1	1.4			DRILL HALL LIGHTS "C"	1.8			1.4	0.0	EXISTING LOAD				20	1	6
7	20	1	1.4			DRILL HALL LIGHTS "D"	1.8	1.4			0.0	EXISTING LOAD				20	1	8
9	20	1	0.7			DRILL BALCONY LIGHTS	0.9		0.7		0.0	EXISTING LOAD				20	1	10
11	20	1	1.0			BALCONY CLASSROOM LTG	1.3			1.0	0.0	EXISTING LOAD				20	1	12
13	20	1	0.5			MECH, OFFICE 03 LIGHTS	0.6	0.5			0.0	EXISTING LOAD				20	1	14
15	20	1		0.8		CLASSROOM 123	0.8		0.8		0.0	EXISTING LOAD				20	1	16
17	20	1		0.8		ROOM 123, 224	0.8			0.8	0.0	EXISTING LOAD				20	1	18
19	20	1		0.8		CLASSROOM 124	0.8	0.8			0.0	EXISTING LOAD				20	1	20
21	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	22
23	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	24
25	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	26
27	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	28
29	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	30
31	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	32
33	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
43	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	44
45	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	46
47	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	48
49	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	52
53	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	54
55	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	56
57	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0			0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	64
65	20	1				BLANK	0.0			0.0	0.0	BLANK				20	1	66
67	20	1				BLANK	0.0	0.0			0.0	BLANK				20	1	68
69	20	1				BLANK	0.0		0.0		0.0	BLANK				20	1	70
71	20	1				BLANK	0.0			0.0	0.0	BLANK				20	1	72
73	20	1				BLANK	0.0	0.0			0.0	BLANK				20	1	74
75	20	1				BLANK	0.0		0.0		0.0	BLANK				20	1	76
77	20	1				BLANK	0.0			0.0	0.0	BLANK				20	1	78
79	20	1				BLANK	0.0	0.0			0.0	BLANK				20	1	80
81	20	1				BLANK	0.0		0.0		0.0	BLANK				20	1	82
83	20	1				BLANK	0.0			0.0	0.0	BLANK				20	1	84
TOTALS:						CONNECTED kVA PER PHASE	6	4	3			CONNECTED TOTAL kVA				13		
						CONNECTED AMPS PER PHASE	46	36	27			CONNECTED AVERAGE AMPS PER PHASE				36		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 11kVA @125% =	13 kVA	ALL OTHER LOADS @100% =	0 kVA	DIVERSIFIED TOTAL kVA =	16
RECEPTACLES 2kVA @100% =	2 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	44
REMAINDER 0kVA @ 50% =	0 kVA				

*-PROVIDE 30mA GFI CIRCUIT BREAKER FOR HEAT TRACE.

IF NOTES ARE NOT USED, DO NOT INCLUDE ON DRAWINGS.

NOTES LEGEND:

1. PROVIDE MATCHING CIRCUIT BREAKERS FOR EXISTING LOADS FIELD VERIFY.
2. PROVIDE SPARE 20A CIRCUIT BREAKERS TO FILL PANEL AFTER ALL EXISTING LOADS ARE ACCOUNTED FOR.
3. PROVIDE TYPE WRITTEN PANEL SCHEDULE WITH ACCURATE NEW, EXISTING, AND SPARE CRCUITS CLEARLY IDENTIFIED.

PANEL "K"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	150 AMPERE MAIN LUG	KITCHEN	RECESSED	1 2 3

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)				LCL	PHASE LOAD			LCL		LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR	DESCRIPTION	kVA	A	B	C	kVA	DESCRIPTION	LTG	CO	PWR	AMP	POLE	NO
1	20	1			1.6	REFERATOR	1.6	2.6			1.0	STEAM TABLE			1.0	20	1	2
3	20	1			0.5	PREP TABLE	0.5		1.0		0.5	STOVE GRILL			0.5	20	1	4
5	20	1			2.2	CONV. OVEN	2.2			3.7	1.5	DISPOSAL			1.5	20	1	6
7	20	1		0.4		KITCHEN, HALL OUTLETS	0.4	1.4			1.0	DRYER			1.0	20	1	8
9	30	1			1.0	WASHER	1.0		1.0		0.0	SPARE				20	1	10
11	20	1			1.2	MIXER	1.2			1.2	0.0	EXISTING LOAD				20	1	12
13	20	1	1.3			RM 113, 114, 115, 116 LGTS	1.6	1.3			0.0	EXISTING LOAD				20	1	14
15	20	1	1.0			RM 117 – 121 LTGS	1.2		1.0		0.0	EXISTING LOAD				20	1	16
17	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	18
19	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	20
21	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	22
23	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	24
25	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	26
27	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	28
29	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	30
31	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	32
33	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	34
35	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	36
37	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
TOTALS:						CONNECTED kVA PER PHASE	5	3	5			CONNECTED TOTAL kVA				13		
						CONNECTED AMPS PER PHASE	44	25	41			CONNECTED AVERAGE AMPS PER PHASE				37		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 2kVA @125% =	3 kVA	ALL OTHER LOADS @100% =	10 kVA	DIVERSIFIED TOTAL kVA =	14
RECEPTACLES 0kVA @100% =	0 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	38
REMAINDER 0kVA @ 50% =	0 kVA				

IF NOTES ARE NOT USED, DO NOT INCLUDE ON DRAWINGS.

NOTES LEGEND:

1. PROVIDE MATCHING CIRCUIT BREAKERS FOR EXISTING LOADS FIELD VERIFY.
2. PROVIDE SPARE 20A CIRCUIT BREAKERS TO FILL PANEL AFTER ALL EXISTING LOADS ARE ACCOUNTED FOR.
3. PROVIDE TYPE WRITTEN PANEL SCHEDULE WITH ACCURATE NEW, EXISTING, AND SPARE CRCUITS CLEARLY IDENTIFIED.

PANEL "A"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUG	DRILL HALL, EAST WALL	RECESSED	1 2 3

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)				LCL	PHASE LOAD			LCL		LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR	DESCRIPTION	kVA	A	B	C	kVA	DESCRIPTION	LTG	CO	PWR	AMP	POLE	NO
1	20	1				RESTROOM LIGHTS	0.9	0.7			0.0	EXISTING LOAD				20	1	2
3	20	1				BUNK & CLASS RM LTGS	1.5		1.2		0.0	EXISTING LOAD				20	1	4
5	20	1				EAST OFFICES LIGHTS	1.5			1.2	0.0	EXISTING LOAD				20	1	6
7	20	1				PARKING & CANOPY LIGHTS	0.9	0.7			0.0	EXISTING LOAD				20	1	8
9	20	1				SPARE	0.0		0.0		0.0	EXISTING LOAD				20	1	10
11	20	1		0.4		BATHROOM OUTLETS	0.4			0.4	0.0	EXISTING LOAD				20	1	12
13	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	14
15	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	16
17	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	18
19	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	20
21	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	22
23	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	24
25	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	26
27	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	28
29	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	30
31	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	32
33	20	1				EXISTING LOAD	0.0		0.0		0.0	EXISTING LOAD				20	1	34
35	20	1				EXISTING LOAD	0.0			0.0	0.0	EXISTING LOAD				20	1	36
37	20	1				EXISTING LOAD	0.0	0.0			0.0	EXISTING LOAD				20	1	38
39	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	40
41	20	1				SPARE	0.0			0.0	0.0	SPARE				20	1	42
TOTALS:						CONNECTED kVA PER PHASE	1	1	2			CONNECTED TOTAL kVA				4		
						CONNECTED AMPS PER PHASE	12	10	14			CONNECTED AVERAGE AMPS PER PHASE				12		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 4kVA @125% =	5 kVA	ALL OTHER LOADS @100% =	0 kVA	DIVERSIFIED TOTAL kVA =	5
RECEPTACLES 0kVA @100% =	0 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	14
REMAINDER 0kVA @ 50% =	0 kVA				

IF NOTES ARE NOT USED, DO NOT INCLUDE ON DRAWINGS.

NOTES LEGEND:

1. PROVIDE MATCHING CIRCUIT BREAKERS FOR EXISTING LOADS FIELD VERIFY.
2. PROVIDE SPARE 20A CIRCUIT BREAKERS TO FILL PANEL AFTER ALL EXISTING LOADS ARE ACCOUNTED FOR.
3. PROVIDE TYPE WRITTEN PANEL SCHEDULE WITH ACCURATE NEW, EXISTING, AND SPARE CRCUITS CLEARLY IDENTIFIED.

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6-17-2009

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Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ELECTRICAL SCHEDULES

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: CDN
CHECKED BY: SCL
PROJECT NO.: 08297840
DATE: JUNE 17, 2009
DRAWING NO.: EP501

Utah National Guard - Price Armory - Seismic Upgrade

File Name: P:\2009\20090160\1Drawings\3Sheet\60EP501.dwg Last Plotted: 2009/08/11 @ 4:30 PM By: cdn

EQUIPMENT SCHEDULE

MARK	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE (CC–INDICATES CONDUCTOR AND CONDUIT SCHEDULE)	OVERCURRENT PROTECTION								NOTES	MARK
												DISCONNECT SWITCH				CIRCUIT BREAKER			
		HP	KVA	MCA	FLA	VOLT	PH	Hz		FURN BY	SWITCH TYPE	NEMA RATING	FUSED SWITCH	FUSE RATING	FUSE CLASS	CB	PANEL	RATING	
AH–1	AIR HANDELER	1	0.60	4.8		208	3	60	CC#6	E	30/3	1	YES	15A	RK5	20/3	1LB	HACR	1 AH–1
EF–1	EXHAUST FAN	1/6	0.60			120	1	60	CC#1	E	THERMAL SWITCH	3R	YES				1LB	HACR	1 EF–1
EF–2	EXHAUST FAN	1/25	0.50			120	1	60	CC#1	E	THERMAL SWITCH	3R	YES				1LB	HACR	1 EF–2
RTU–1	ROOF TOP UNIT		4.20	34.9		208	3	60	CC#6	E	60/3	3R	YES	45A	RK5	50/3	1LB	HACR	1 RTU–1
RTU–2	ROOF TOP UNIT		3.72	30.7		208	3	60	CC#6	E	60/3	3R	YES	40A	RK5	50/3	1LB	HACR	1 RTU–2
RTU–3	ROOF TOP UNIT		3.20	26.5		208	3	60	CC#3	E	30/3	3R	YES	30A	RK5	30/3	1LB	HACR	1 RTU–3
UH–1	UNIT HEATER	1/12	0.48			120	1	60	CC#1	E	THERMAL SWITCH		YES				1LB	HACR	1 UH–1

NOTES:
1. LOCATE DISCONNECT ADJACENT TO UNIT.
2. INDOOR UNIT POWERED FROM OUTDOOR UNIT.

PANEL "MDP"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	PANELBOARD	800 AMPERE MAIN BKR	OUTSIDE S.E. CORNER	NEMA 3R	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	225	3	4.7	0.8	0.0	PANEL "1LA"	6.7	27.2			21.7	PANEL "1LB"	0.0	1.0	20.7	225	3	2
–	–	–	3.5	0.8	0.0	–	5.2		28.0		23.7	–	0.0	0.0	23.7	–	–	–
–	–	–	2.4	0.8	0.0	–	3.8			25.1	21.9	–	0.0	0.8	21.1	–	–	–
3	225	3	1.4	0.0	0.0	PANEL "A"	1.8	6.7			5.6	PANEL "K"	1.3	0.4	3.6	150	3	4
–	–	–	1.2	0.0	0.0	–	1.5		4.1		3.2	–	1.0	0.0	2.0	–	–	–
–	–	–	1.2	0.4	0.0	–	1.9			6.5	4.9	–	0.0	0.0	4.9	–	–	–
5	100	3	1.6	0.0	0.0	PANEL "R"	2.0	1.6			0.0	SPARE				200	3	6
–	–	–	0.6	0.0	0.0	–	0.7		0.6		0.0	–				–	–	–
–	–	–	1.1	0.0	0.0	–	1.4			1.1	0.0	–				–	–	–
19	100	1				BLANK	0.0	0.0			0.0	BLANK				200	3	20
21	–	–				---	0.0		0.0		0.0	---				–	–	22
23	–	–				---	0.0			0.0	0.0	---				–	–	24

TOTALS: CONNECTED kVA PER PHASE **36 33 33** CONNECTED TOTAL kVA **101**
CONNECTED AMPS PER PHASE **296 272 273** CONNECTED AVERAGE AMPS PER PHASE **280**

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 20kVA @125% =	25 kVA	ALL OTHER LOADS @100% =	76 kVA	DIVERSIFIED TOTAL kVA =	106
RECEPTACLES 5kVA @100% =	5 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	294
REMAINDER 0kVA @ 50% =	0 kVA				

PANEL "R"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT–ON	100 AMPERE MAIN LUG	GARAGE, EAST WALL	SURFACE	1 2 3

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASE LOAD			LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	C	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1				GARAGE LIGHTS	1.8	1.4			0.0	SPARE				20	1	2
3	20	1				GARAGE & HALL LIGHTS	0.7		0.6		0.0	SPARE				20	1	4
5	20	1				EXTERIOR LIGHTS	1.4			1.1	0.0	SPARE				20	1	6
7	20	1				EXTERIOR LIGHTS	0.2	0.2			0.0	SPARE				20	1	8
9	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	10
11	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	12
13	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	14
15	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	16
17	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	18
19	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	20
21	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	22
23	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	24
25	20	1				EXISTING LOAD	0.0	0.0			0.0	SPARE				20	1	26
27	20	1				EXISTING LOAD	0.0		0.0		0.0	SPARE				20	1	28
29	20	1				EXISTING LOAD	0.0			0.0	0.0	SPARE				20	1	30
31	20	1				BLANK	0.0	0.0			0.0	BLANK				20	1	32
33	20	1				BLANK	0.0		0.0		0.0	BLANK				20	1	34
35	20	1				BLANK	0.0			0.0	0.0	BLANK				20	1	36
37	20	1				BLANK	0.0	0.0			0.0	BLANK				20	1	38
39	20	1				BLANK	0.0		0.0		0.0	BLANK				20	1	40
41	20	1				BLANK	0.0			0.0	0.0	BLANK				20	1	42

TOTALS: CONNECTED kVA PER PHASE **2 1 1** CONNECTED TOTAL kVA **3**
CONNECTED AMPS PER PHASE **13 5 9** CONNECTED AVERAGE AMPS PER PHASE **9**

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 3kVA @125% =	4 kVA	ALL OTHER LOADS @100% =	0 kVA	DIVERSIFIED TOTAL kVA =	4
RECEPTACLES 0kVA @100% =	0 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	11
REMAINDER 0kVA @ 50% =	0 kVA				

IF NOTES ARE NOT USED, DO NOT INCLUDE ON DRAWINGS.

NOTES LEGEND:
1. PROVIDE MATCHING CIRCUIT BREAKERS FOR EXISTING LOADS FIELD VERIFY.
2. PROVIDE SPARE 20A CIRCUIT BREAKERS TO FILL PANEL AFTER ALL EXISTING LOADS ARE ACCOUNTED FOR.
3. PROVIDE TYPE WRITTEN PANEL SCHEDULE WITH ACCURATE NEW, EXISTING, AND SPARE CRCUITS CLEARLY IDENTIFIED.

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Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ELECTRICAL SCHEDULES

REVISIONS	DATE	BY	DESCRIPTION
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DRAWN BY CDN | CHECKED BY SCL
PROJECT NO. 08297840
DATE JUNE 17, 2009
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Utah National Guard - Price Armory - Seismic Upgrade

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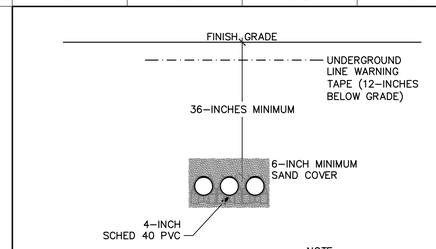
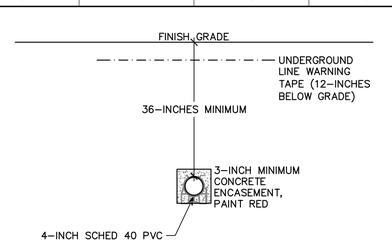


C12 UNDERGROUND SECONDARY DETAIL
NTS



C8 UNDERGROUND PRIMARY DETAIL
NTS

CONDUCTOR AND CONDUIT SCHEDULE

(**) SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.) (5)IG

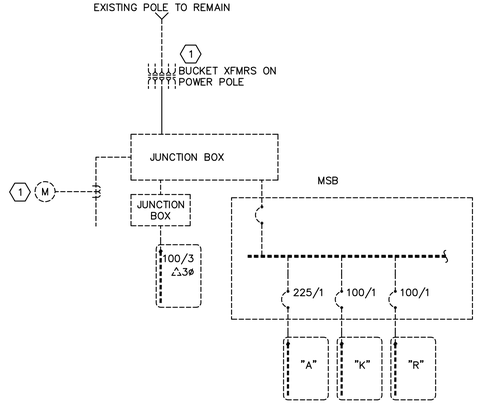
SYM	AMP	CONDUIT SIZE	CONDUCTOR(NOTE 1) QTY	SIZE	G	IG	SE	NOTES
1	20	.75	2	12	12	12	8	2
2	20	.75	3	12	12	12	8	2,3
3	20	.75	4	12	12	12	8	2,3
4	30	.75	2	10	10	10	8	2
5	30	.75	3	10	10	10	8	2
6	30	.75	4	10	10	10	8	2
7	40	1	2	8	10	8	6	2
8	40	1	3	8	10	8	6	2
9	40	1	4	8	10	8	6	2
10	55	1	2	6	10	8	4	2
11	55	1	3	6	10	8	4	2
12	55	1.25	4	6	10	8	4	2
13	70	1	2	4	8	4	2	2
14	70	1.25	3	4	8	4	2	2
15	70	1.25	4	4	8	4	2	2
16	85	1.25	2	3	8	3	2	2
17	85	1.25	3	3	8	3	2	2
18	85	1.25	4	3	8	3	2	2
19	95	1.25	3	2	8	2	2	2
20	95	1.50	4	2	8	2	2	2
21	130	1.50	3	1	6	2	2	2
22	130	1.50	4	1	6	2	2	2
23	150	2	3	1/0	6	2	1/0	2
24	150	2	4	1/0	6	2	1/0	2
25	175	2	3	2/0	6	2	2/0	2
26	175	2	4	2/0	6	2	2/0	2
27	200	2	3	3/0	6	2	2/0	2
28	200	2.50	4	3/0	6	2	2/0	2
29	230	2.50	3	4/0	4	2	2/0	2
30	230	2.50	4	4/0	4	2	2/0	2
31	255	2.50	3	250	4	1	2/0	2
32	255	2.50	4	250	4	1	2/0	2
33	310	3	3	350	3	1/0	3/0	2
34	310	3	4	350	3	1/0	3/0	2
35	380	3.50	3	500	3	3/0	3/0	2
36	380	4	4	500	3	3/0	3/0	2
37	400	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	2 EA 2.50	3	250	1	4/0	3/0	2
40	510	2 EA 3	4	250	1	4/0	3/0	2
41	620	2 EA 3	3	350	1/0	4/0	3/0	2,4
42	620	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	760	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44	760	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	3 EA 4	4	500	3/0	4/0	3/0	4
51	1240	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	5 EA 3.50	4	400	4/0	4/0	4/0	4
54	2010	6 EA 3.50	4	400	250	250	250	4
55	2660	7 EA 4	4	500	350	350	350	4
56	3040	8 EA 4	4	500	500	500	500	4
57	4180	11 EA 4	4	500	500	500	500	4
58		3 EA 4						6
59		5						6
60		10 EA 4						6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

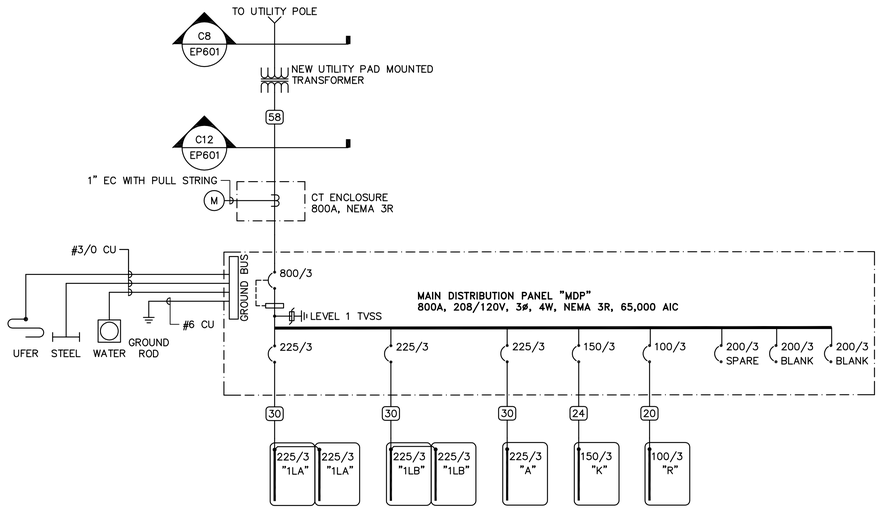
1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250–122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG", INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

KEYNOTES

1. COORDINATE REMOVAL OF EQUIPMENT WITH ROCKY MOUNTAIN POWER.



L18 DEMOLITION ONE–LINE DIAGRAM
NTS



L12 ONE–LINE DIAGRAM
NO SCALE

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GENERAL SHEET NOTES

1. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
2. REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
3. ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.

Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
ONE-LINE DIAGRAM

REVISIONS	DATE	BY	DESCRIPTION
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PROJECT NO. 08297840
DRAWING NO. EP601
DATE JUNE 17, 2009

Utah National Guard - Price Armory - Seismic Upgrade

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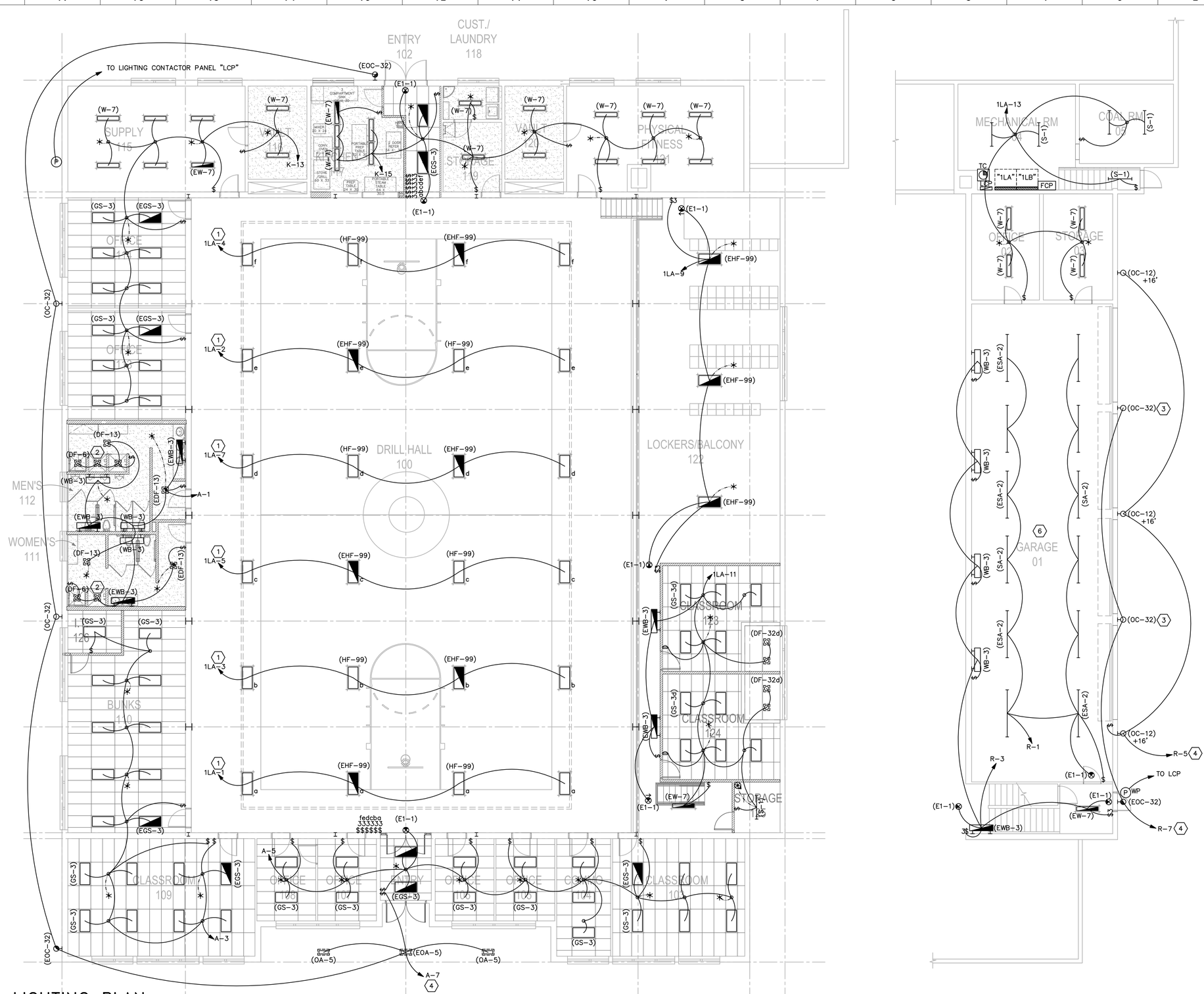

1 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. ALL EMERGENCY LIGHTS (HALF SHADED) AND EXIT SIGNS SHALL BE CONNECTED TO UNSWITCHED LEG OF CIRCUIT.

SHEET KEYNOTES

1. CIRCUIT AND SWITCH HIGH BAY LIGHT FIXTURES AS NOTED BY SUBSCRIPT.
2. SWITCH SHOWER LIGHTS SEPARATELY.
3. MOUNT AT HEIGHT OF EXISTING WALL PACKS THAT ARE TO BE REMOVED.
4. CONNECT THROUGH PHOTOCELL AND TIMECLOCK, PHOTOCELL ENABLE/TIMECLOCK OFF.
5. MOUNT LIGHT FIXTURES 2–FEET ABOVE BOTTOM OF TRUSSES.
6. MOUNT LIGHT FIXTURE IN THE GARAGE IN THE SAME LOCATION AS THE EXISTING LAYOUT.

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PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
LIGHTING PLAN

REVISIONS	DATE	BY	DESCRIPTION
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Utah National Guard - Price Armory - Seismic Upgrade

LIGHTING FIXTURE SCHEDULE

NOTE TO BIDDERS: COMPLY WITH SECTIONS 16511, 16521, AND 16570 OF THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277) BALLASTS REQUIRED UNLESS NOTED OTHERWISE. DIMENSION SEQUENCE = (LENGTH X WIDTH X DEPTH) IN INCHES.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER	NOTES
	DF	FLUORESCENT DOWNLIGHT; THERMALLY PROTECTED HOUSING: TO ACCOMMODATE MULTIPLE TRIMS AND REFLECTOR ASSEMBLIES FOR LAMPS AS LISTED BELOW; ELECTRONIC BALLASTS; LOW IRIDESCENT REFLECTOR FINISH (EVEN IF NOT SHOWN IN CATALOG #); SELF FLANGING TRIM UNLESS NOTED.						
	DF-6	RECESSED SHOWER LIGHT; WHITE TRIM, DROP OPAL LENS, SQUARE, QUAD LAMP, 6-9" APERTURE.	2-Q13 RE835	40W	277/120V	PRESCOLITE	CF10SQ2EB-1015S3-TLG-TRG WET (17-1/4 X 10-1/16 X 4-1/8)	
						LITHONIA	LAF213DTT-11RW-DOL-MVOLT HPF (24 X 13-1/4 X 6)	
						LIGHTOLIER	1102DHX-1178SH (12-3/4 X 6-13/16 X 7-1/2)	
						CAPRI	CF102H13Q-U-S56	
						HALO	H242-11G (12 X 8-1/4 X 3-1/2)	
						INFINITY	PHSQ80 213Q-EB (G24Q-1) DO 277 BH (23 X 17 X 7)	
	DF-13	RECESSED DOWNLIGHT; VERTICAL, 6" APERTURE, 26W CF-AMALGAM LAMP, CLEAR.	1-CF-A26 RE835	50W	277/120V	PORTFOLIO	C6032E-6051LI (12 X 11-1/2 X 9-1/2)	
						INFINITY	PV60 126T-EB (GX24Q-3) 277 BH (16-1/4 X 12 X 9-5/8)	
						LIGHTOLIER	8021CCLW/6132BU (12-3/4 X 10 X 9-3/8)	
						LITHONIA	AFV 26TRT 6AR MVOLT (15-13/16 X 12-15/16 X 10-7/8)	
						OMEGA	S626QPL-U-T6-CS (11-11/16 X 11-7/16 X 11-3/8)	
						PRESCOLITE	CFQ626EB-STF602 (15-3/8 X 14-3/8 X 11-5/16)	
	DF-32	RECESSED DOWNLIGHT; 6-7" APERTURE, HORIZONTAL, 32W CF-AMALGAM LAMP, BLACK BAFFLE.	1-CF-A32 RE835	50W	277/120V	PORTFOLIO	C6132E-6151BB (13 X 11-1/2 X 6-1/2)	
						LIGHTOLIER	8031MGW/6132BU (12-3/4 X 10 X 6-7/8)	
						LITHONIA	AF 1/32TRT 6MB MVOLT (15-13/16 X 12-15/16 X 10-7/8)	
						OMEGA	S61H32-U-T61H-BB-CS (11-11/16 X 11-7/16 X 5-3/4)	
						PRESCOLITE	CFT632HEB-WTF605H (16-1/4 X 14-7/16 X 6-1/4)	
						INFINITY	PH60 132T-EB (GX24Q-3) MB 277 BH (16-1/4 X 12 X 5-1/4)	
	DF-32d	RECESSED DOWNLIGHT; 6-7" APERTURE, HORIZONTAL, 32W CF-AMALGAM LAMP, BLACK BAFFLE. DIMMABLE BALLAST	1-CF-A32 RE835	50W	277/120V	PORTFOLIO	C6132E-6151BB (13 X 11-1/2 X 6-1/2)	
						LIGHTOLIER	8031MGW/6132BU (12-3/4 X 10 X 6-7/8)	
						LITHONIA	AF 1/32TRT 6MB MVOLT (15-13/16 X 12-15/16 X 10-7/8)	
						OMEGA	S61H32-U-T61H-BB-CS (11-11/16 X 11-7/16 X 5-3/4)	
						PRESCOLITE	CFT632HEB-WTF605H (16-1/4 X 14-7/16 X 6-1/4)	
						INFINITY	PH60 132T-EB (GX24Q-3) MB 277 BH (16-1/4 X 12 X 5-1/4)	
	E	E PREFIX INDICATES THAT FIXTURE IS PROVIDED WITH AN EMERGENCY BATTERY PACK TO PROVIDE POWER TO ANY 2, 3, 4 OR 8 FOOT FLOURESCENT LAMP COMPATIBLE WITH ALL STANDARD AND ELECTRONIC BALLASTS; COMPLETELY SELF-CONTAINED TO PROVIDE 90 MINUTES OF EMERGENCY POWER TO FIXTURE BALLAST; MINIMUM LIGHT OUTPUT FOR TYPICAL 4' LAMP SHALL BE 1100 LUMENS OR HIGHER;UNIVERSAL TRANSFORMER FOR 120 OR 277 VOLTS; LOW VOLTAGE PROTECTION, COMBINATION TEST SWITCH AND AC "ON" INDICATOR; 10 YEAR PRO-RATA WARRANTY; INSTALL TEST SWITCH IN A MANNER THAT REQUIRES NO DISASSEMBLY FOR TESTING.						
	E	EMERGENCY BATTERY PACK.			120/277V3W	IOTA	I-80	
						BODINE	B50	
						LITHONIA	PS-1400	
						PRESCOLITE	EFPS-5	
						EELP	EB1400 (CONTRACTOR INSTALLED)	
						CHLORIDE	CFP841	
						LIGHTOLIER	FBP50	
						SIDELITE	S60F	
	E1	EXIT SIGN: THERMOPLASTIC HOUSING; UNIVERSAL MOUNTING; UNIVERSAL ARROWS PER PLANS; EMERGENCY BATTERY PACK WITH 10 YEAR PRO-RATA WARRANTY; LED, DIFFUSE LENS PANEL; GREEN LETTERS ON WHITE BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS.						
	E1-1	SINGLE FACE:	LED	1W	120/277V	MCPHILBEN	CXXL-1-GW	
						DUAL-LITE	LXSGWE	
						EELP	XE 1 GW EM	
						LITHONIA	LQM S W 1 G 120/277 ELN	
						SURE-LITES	LPX70DGW	
						DAY-BRITE	CXL-1-GW-EM	
						CHLORIDE	SLN1GW	
						LIGHTOLIER	LTN1GW	

LIGHTING FIXTURE SCHEDULE

SYMBOL	MARK	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER	NOTES
	GS	TROFFERS: RECESSED FOR LAY-IN GRID; STATIC; HINGED AND LATCHED STEEL DOOR; .125 ACRYLIC PRISMATIC LENS, MINIMUM 1/8"; EARTHQUAKE CLIPS; MAX 5" DEEP; SPECIFICATION GRADE; PROGRAM START ELECTRONIC BALLASTS, T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
	GS-3	2-F32T8 RE835	65W	277/120V	LITHONIA	2 SP8G 232 A12125 MVOLT TUBRHP (4-1/2" DEPTH)	
					METALUX	2GP-232A125-UNV-EB81-PROGRAM START (3-3/4" DEPTH)	
					DAYBRITE	2DPG232-FS21-UNV-1/2EB-SPEC (4-3/8" DEPTH)	
					LSI	LA125 232 SD SS010PS UE (4" DEPTH)	
					LIGHTOLIER	XT2GVI232-UNV-SOP (3-5/8" DEPTH)	
					COLUMBIA	ST824-232G-FSA12.125-EB8LHPRUNV (3-3/4" DEPTH)	
	GS-3d	2-F32T8 RE835	65W	277/120V	LITHONIA	2 SP8G 232 A12125 MVOLT TUBRHP (4-1/2" DEPTH)	
					METALUX	2GP-232A125-UNV-EB81-PROGRAM START (3-3/4" DEPTH)	
					DAYBRITE	2DPG232-FS21-UNV-1/2EB-SPEC (4-3/8" DEPTH)	
					LSI	LA125 232 SD SS010PS UE (4" DEPTH)	
					LIGHTOLIER	XT2GVI232-UNV-SOP (3-5/8" DEPTH)	
					COLUMBIA	ST824-232G-FSA12.125-EB8LHPRUNV (3-3/4" DEPTH)	
	GS-4	3-F32T8 RE835	95W	277/120V	LITHONIA	2 SP8G 332 A12125 1/3 MVOLT TUBRHP (4-1/2" DEPTH)	
					METALUX	2GP-332A125-UNV-EB81-PROGRAM START (3-3/4" DEPTH)	
					DAYBRITE	2DPG332-FS21-UNV-1/3EB-SPEC (4-3/8" DEPTH)	
					COLUMBIA	ST824-332G-FSA12.125-3EB8LHPRUNV (3-3/4" DEPTH)	
					LIGHTOLIER	XT2GVI332-UNV-03P (3-5/8" DEPTH)	
					LSI	LA125 332 SD SS010PS UE (4" DEPTH)	
	HF	SPECIAL FIXTURES AS INDICATED. MEET ALL REQUIREMENTS OF SPECIFICATIONS AND FIXTURE SCHEDULE VISUAL AND FINISH APPROVAL REQUIRED.					
	HF-99	HIGH BAY FLOURESCENT	6-F54T5 RE841	350W	277/120V	DAYBRITE	FBF-6-54HO-UNV-1/42EB-U-WG-FBF6
						LA LIGHTING	EBY400-6-4M-SR-WG11-2EH5-MVOLT
						LITHONIA	FSB-654L-KD-MVOLT-2/3-WGI
						HE WILLIAMS	GL-4-654T5H-WG11-UP5-WD
						METALUX	2HB-6-54T5-WG-UNV-LAMPS-EBT2
	OA	SMALL RECTANGULAR WALL PACK: POLYCARBONATE HOUSING WITH POLYCARBONATE PRISMATIC DIFFUSER, RECESSED BOX MOUNTING; BRONZE.					
	OA-5	SQUARE CEILING PACK: APPROX 10" X 10" X 5" DEEP; CEILING MOUNTED.	1-50HPS CLEAR	70W	120V	HUBBELL	NRG-401
						LITHONIA	VR3C-50S-120
						LUMINAIRE	DWL1010-50HPS-HPF-120 (277 AVAILABLE)
						TERON	YX50
						LUMARK	PLVR-PW-28-120/277
						EXCELINE	CML50NLXL-1
	EOA-5	EMERGENCY BATTERY PACK. SQUARE CEILING PACK: APPROX 10" X 10" X 5" DEEP; CEILING MOUNTED.	1-50HPS CLEAR	70W	120V	HUBBELL	NRG-401
						LITHONIA	VR3C-50S-120
						LUMINAIRE	DWL1010-50HPS-HPF-120 (277 AVAILABLE)
						TERON	YX50
						LUMARK	PLVR-PW-28-120/277
						EXCELINE	CML50NLXL-1
	OC	WALL PACK: ADJUSTABLE CUT OFF; FULL PERIMETER GASKETING: WET LOCATION; STAINLESS STEEL HINGES AND LATCHES; PROJECTING LENS; HPF BALLAST; SEE ELEVATION FOR MOUNTING HEIGHT, COLOR AS SPECIFIED BY ARCHITECT.					
	OC-12	320 PSMH, RECESSED J BOX. TYPE 4 CUTOFF OPTICS, DECORATIVE	320PSMH	370W	277/120V	KIM	WD18D4/320PSMH120/XX
						LSI	N/A
						GREENLEE	WWM-320MH-MT-FT-CBA-PSB
						GE	CCMX32P0H1BDKBZD
						MCGRAW-ED	VWM-320-MH-MT-4S-XX
	OC-32	CF42, RECESSED J BOX. MEDIUM THROW, SQUARE, DECORATIVE	CF42 RE835	50W	277/120V	MCPHILBEN	101MT-42TRF-CBA-DT
						LSI	GBWS-FTM-42CFL-F-120/277-XX-NO
						LITHONIA	WST 42TRT MD MVOLT
						LUMARK	PLIP-T-42-MT-XX
						LSI	GBWS FTM 42CFL F UE XXX W/LAMP
	S	FLUORESCENT STRIP LIGHT: STEEL CONSTRUCTION; WHITE PAINTED FINISH; SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
	S-1	4', 1-LAMP.	1-F32T8 RE835	40W	277/120V	LITHONIA	C132-MVOLT-TUBRHP
						LIGHTOLIER	SW132-U-SOP
						METALUX	SS-132-UNV-PROGRAM START
						DAYBRITE	T132-UNV-EB-SPEC
						HUBBELL	S132UPS
						COLUMBIA	CS4-132-EB8120/277 PROG
	SA	GENERAL PURPOSE INDUSTRIAL: WHITE ENAMEL, APERTURED REFLECTOR; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE; UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS; STEM MOUNTED WITH TONG HANGERS.					
	SA-1	4', 2-LAMP.	2-F32T8 RE835	65W	277/120V	LITHONIA	EJA232-MVOLT-TUBRHP-THUN
						LIGHTOLIER	KWA232-U-SOP
						METALUX	IA-232-UNV-PROGRAM START
						HUBBELL	IG142R-PP10-UPS
						COLUMBIA	CSR4-232U-EB8120/277 PROG-CSTH
						DAYBRITE	IA232-UNV-1/2-EB-SPEC
	SA-2	8', 4-LAMP.	4-F32T8 RE835	120W	277/120V	LITHONIA	TEJA232-MVOLT-1/4TUBRHP-THUN
						LIGHTOLIER	KWA232-8-U-SOP
						METALUX	8TIA-232-UNV-PROGRAM START
						HUBBELL	IG184R-PP10-UPS
						COLUMBIA	CSR8-232U-4EB8120/277 PROG-CSTH
						DAYBRITE	TIA232-UNV-1/4-EB-SPEC
	W	LOW PROFILE WRAPAROUND: SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS WRAPAROUND ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; MINIMUM CU OF 70 @ 80/50/20 AND RCR=1; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
	W-7	LOW PROFILE WRAPAROUND; 2-LAMP, APPROX; 3" X 12" X 48", .187 INJECTION MOLDED REFRACTOR, BLACK TRIM.	2-F32T8 RE835	65W	277/120V	LIGHTOLIER	CBS-232-U-SOP
						LITHONIA	AW232-MVOLT-TUBPHP-BL
						DAYBRITE	DWN232-UNV-1/2-EB-SPEC
						COLUMBIA	WCW4-232-A12.187-EBPS120/277
						L.A.L.	WAW100-2-4R-INJ-BLK-T8EB-120/277-UPS
						METALUX	SA-232-IMA-UNV-PROGRAM START
						LSI	TSW11 232 SSO10PRS BLK UE
	WB	WALL MOUNTED FLUORESCENT LOCATED ABOVE WALL ELEMENT (MIRROR/WHITEBOARD, ETC.): AS INDICATED ON DRAWINGS; WITH ACRYLIC INJECTION MOLDED; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
	WB-3	2-LAMP, WALL MOUNT 48", STEEL ENCLOSURE, DOWNLIGHT ONLY; ACRYLIC INJECTION MOLDED PRISMATIC DIFFUSER.	2-F32T8 RE835	65W	277/120V	DAYBRITE	CD232W-UNV-1/2-EB-SPEC
						LIGHTOLIER	CWB232-WB-U-SOP
						METALUX	BI-232-UNV-PROGRAM START
						L.A.L.	BSQ100-2-4R-INJ-WHT-T8EB-120/277-UPS
						COLUMBIA	WAL4-232-EBPS120/277
						LITHONIA	WP 232 DO MVOLT-TUBPHP
						LSI	WB 232 SSO10PRS UE

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Utah National Guard
PRICE ARMORY - STRUCTURAL REPAIRS AND UPGRADES
584 NORTH 500 EAST
PRICE, UTAH

SHEET TITLE
LIGHTING SCHEDULE

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: CDN
CHECKED BY: SCL
PROJECT NO.: 08297840
DRAWING NO.: EL601
DATE: JUNE 17, 2009

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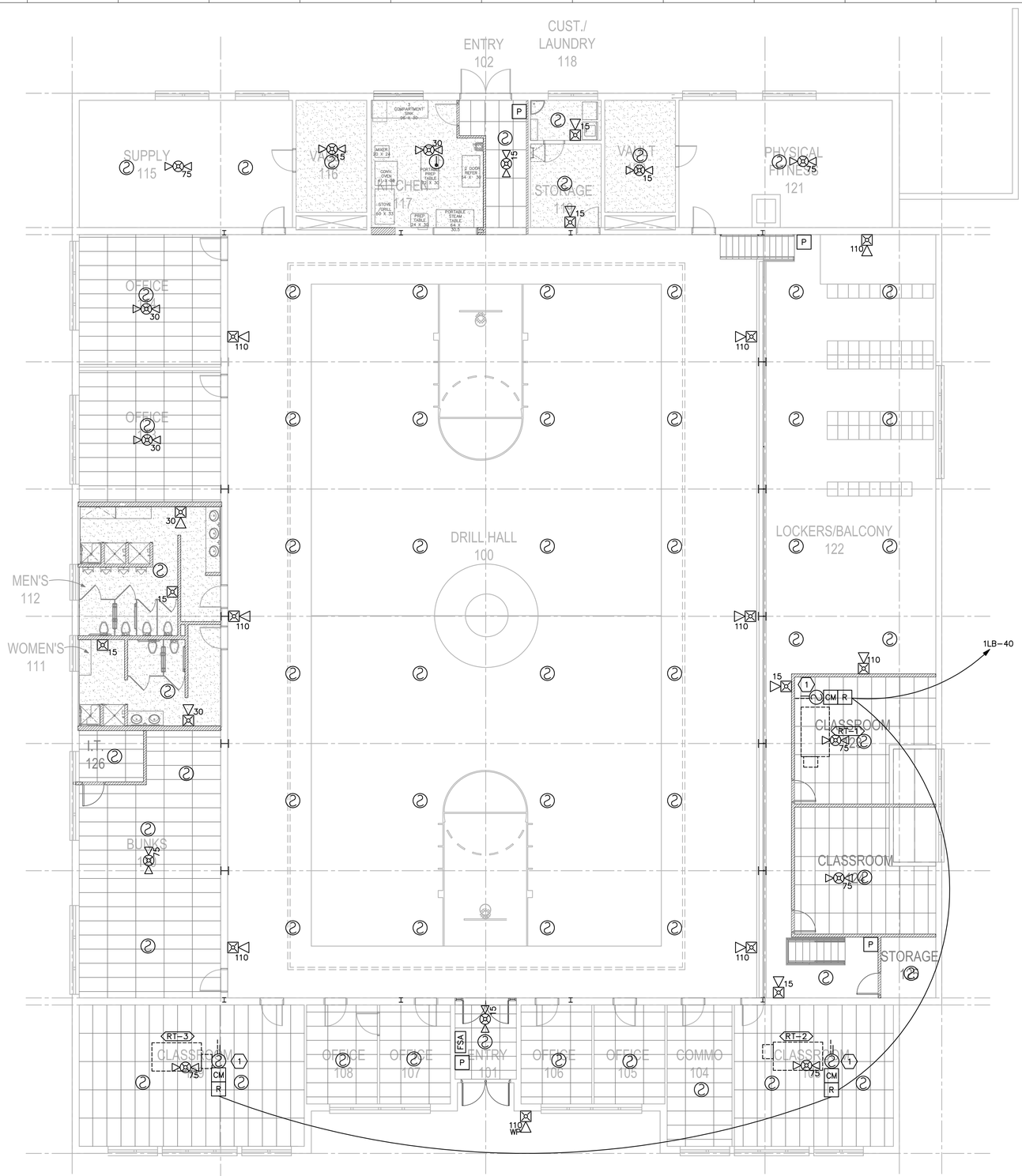

1 FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

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GENERAL NOTES

1. LINE OF TEXT

SHEET KEYNOTES

1. COORDINATE EXACT LOCATION FOR DUCT DETECTOR WITH MECHANICAL EQUIPMENT.

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SHEET TITLE
FIRE ALARM PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: CDN
CHECKED BY: SCL
PROJECT NO.: 08297840
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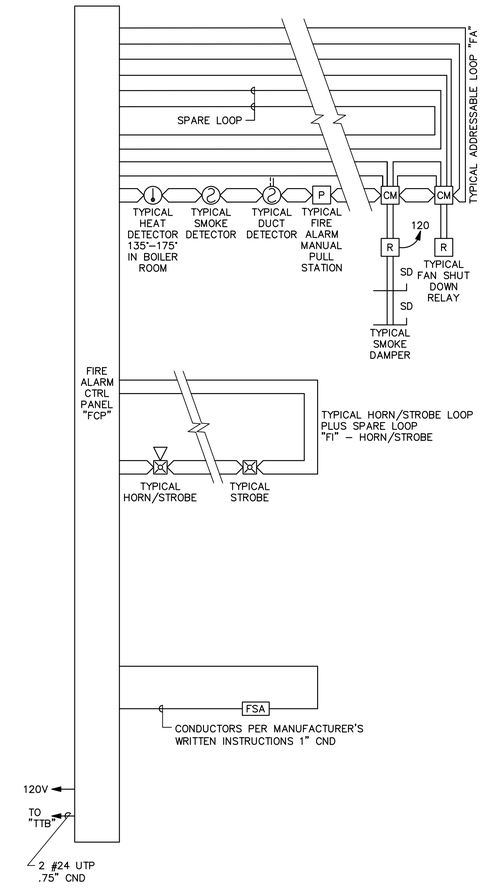

A3 ADDRESSABLE FIRE ALARM RISER
NO SCALE

GENERAL SHEET NOTES

1. PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
2. PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
3. PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
4. FLOW AND TAMPER CONFIGURATION BASED UPON FIRE SPRINKLER DESIGN CONCEPT. FIELD VERIFY ACTUAL REQUIREMENTS. INCLUDE ANY ADDITIONAL MONITOR MODULES REQUIRED BY ACTUAL DESIGN REQUIREMENTS.
5. HEAT DETECTORS WHEN INSTALLED IN ELEVATOR SHAFTS OR MECHANICAL ROOMS FOR ELEVATOR SHUT DOWN SHALL HAVE HEAT DETECTOR WITH LOWER RESPONSE TIME INDEX THAN SPRINKLER HEAD.
6. PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
7. BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 5 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
8. VFD REQUIRES TWO RELAYS, ONE FOR SMOKE CONTROL, ONE SPARE.
9. RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.
10. PROVIDE DUCT DETECTORS FOR SUPPLY AND RETURN AIR SYSTEMS OVER 2000 CFM. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.
11. PROVIDE DUCT DETECTOR AT EACH FLOOR, PRIOR TO CONNECTION TO A COMMON RETURN AND PRIOR TO RECIRCULATING OR FRESH AIR INLET IN AIR RETURN SYSTEMS OVER 15,000 CFM CAPACITY AND SERVING MORE THAN ONE STORY.
12. PROVIDE MANUAL PULL STATIONS IN BOILER ROOMS AND KITCHENS.
13. PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.
14. LOCATE SMOKE DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS.
15. PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
16. INITIATING AND INDICATING LOOPS SHALL NOT SERVE AN AREA OF GREATER THAN 22,500 SQUARE FEET. PROVIDE ADDITIONAL LOOPS FOR AREAS LARGER THAN THIS.
17. ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
18. HORN/STROBE BASED ON 120 MILLIAMPS, DOOR HOLDERS BASED ON 70 MILLIAMPS.
19. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.

WIRING SCHEDULE

FUNCTION	< 500'	< 1000'	1000'–3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE

SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
15	15 CD	20'x20'	.085A	17
30	30 CD	30'x30'	.135A	11
75	75 CD	40'x40'	.200A	7
110	110 CD	50'x50'	.225A	6

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SHEET TITLE
FIRE ALARM RISER DIAGRAM

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY CDN | CHECKED BY SCL
PROJECT NO. 08297840
DATE JUNE 17, 2009
DRAWING NO. FA601

Utah National Guard - Price Armory - Seismic Upgrade

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